

FISCAL YEAR

1983

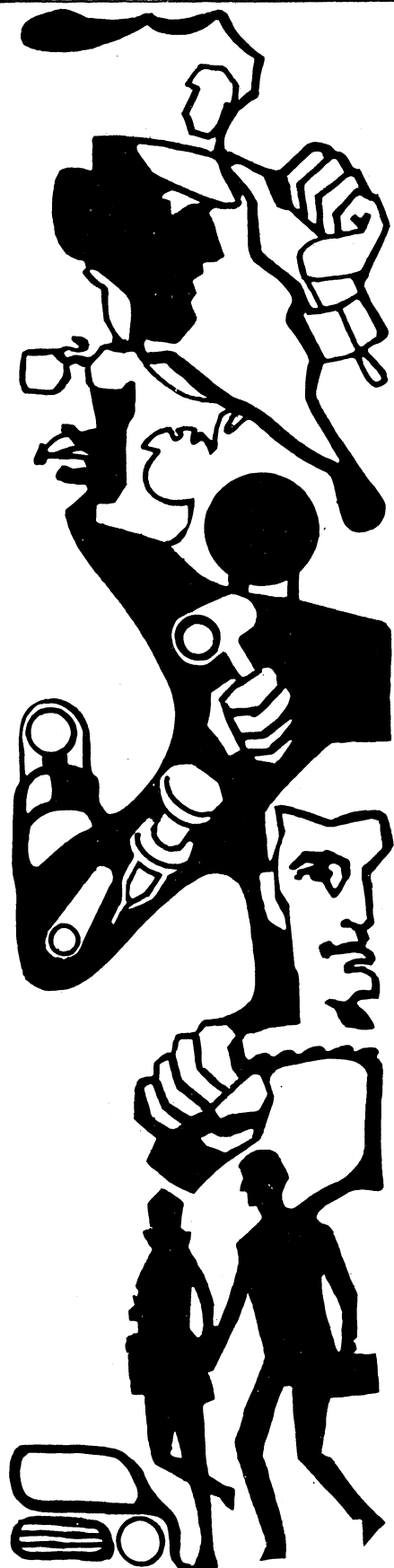
HIGHWAY

SAFETY

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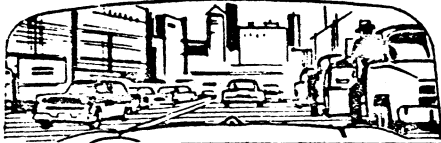
Christopher S. Bond

GOVERNOR

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10/01/82



By: S. G. Dale

State: Missouri

Page 1 of 1

FEDERAL 402 ESTIMATED COSTS (\$000)

PROBLEM SOLUTION PLANS	Current Year Federal Funds	Total Funds Programmed	FY 1984	FY 1985	FY 1986
PT 83-01 Police Traffic Services	1,097.2	1,994.1	725.0	730.0	735.0
AL 83-02 Alcohol Involvement	845.0	845.0	850.0	825.0	800.0
EM 83-03 Severity Reduction	285.4	376.2	320.0	330.0	340.0
SB 83-04 Pupil Transportation	57.9	75.3	60.0	60.0	60.0
DE 83-05 Occupant Restraint	104.5	104.5	99.0	99.0	99.0
TR 83-06 Traffic Records	388.0	388.0	425.0	430.0	435.0
PT 83-07 55 MPH Enforcement	539.2	614.4	500.0	510.0	520.0
NHTSA TOTAL	3,317.2	4,397.5	2,979.0	2,984.0	2,989.0
HD 83-08 Engineering Services	160.0	160.0	160.0	160.0	160.0
HD 83-09 Engineering Training	35.0	35.0	35.0	35.0	35.0
HD 83-10 Intergovernmental Coordination	1.0	1.0	1.0	1.0	1.0
HD 83-11 Equipment Purchase	4.0	4.0	4.0	4.0	4.0
HD 83-12 Warning and Regulatory Signs	25.0	25.0	25.0	25.0	25.0
FHWA TOTAL	225.0	225.0	225.0	225.0	225.0
Totals	3,542.2	4,622.5	3,204.0	3,209.0	3,214.0

TABLE OF CONTENTS
FY 1983 HIGHWAY SAFETY PLAN

	<u>Page</u>
Executive Summary	1
Problem Analysis Summary	6
Problem Solution Plans	
1. PT 83-01 Police Traffic Services	11
Selection Criteria	13
Budget Sheets	19
Project Narratives	24
2. AL 83-02 Alcohol Involvement	26
Selection Criteria	30
Budget Sheets	35
Project Narratives	43
3. EM 83-03 Severity Reduction	47
Problem Statement	47
Budget Sheets	50
Project Narratives	51
4. SB 83-04 Pupil Transportation	53
Problem Statement	53
Budget Sheets	56
Project Narratives	57
5. DE 83-05 Occupant Restraint	58
Problem Statement	58
Budget Sheets	60
Project Narratives	61

	<u>Page</u>
6. TR 83-06 Traffic Records	63
Problem Statement	63
Budget Sheets	67
Project Narratives	68
7. PT 83-07 55 MPH Enforcement	70
Selection Criteria	71
Budget Sheets	77
Project Narratives	82
8. HD 83-08 Engineering Services	83
Problem Statement	83
Budget Sheet	84
Project Narratives	85
9. HD 83-09 Engineering Training	86
Problem Statement	86
Budget Sheet	87
Project Narratives	88
10. HD 83-10 Intergovernmental Coordination	89
Problem Statement	89
Budget Sheet	90
Project Narrative	91
11. HD 83-11 Equipment Purchase	92
Problem Statement	92
Budget Sheet	93
Project Narrative	94
12. HD 83-12 Warning and Regulatory Signs	95
Problem Statement	95
Budget Sheet	96
Project Narrative	97
13. TSM Program-Transyt-7F	98

EXECUTIVE SUMMARY

The following document contains Missouri's plan to reduce fatalities, injuries and property damage resulting from traffic crashes. This plan was written to comply with guidelines established by the National Highway Traffic Safety Administration and the Federal Highway Administration and describes activities scheduled for implementation during FY 1983 - October 1, 1982 through September 30, 1983.

Specifically provided for in this plan are activities in eight areas: Police Traffic Services, Alcohol Countermeasures, Severity Reduction, Pupil Transportation, Occupant Restraint, Traffic Records, 55 MPH Enforcement and Engineering.

Police Traffic Services: (PT 83-01)

Funds will be provided to continue past successful selective enforcement projects implemented at the county and municipal level. Traffic officers funded in project sites are assigned traffic enforcement responsibilities based on problem identification in their jurisdiction. Emphasis is placed on those contributing factors and violations identified as causal relationships in traffic crashes for that area. New sites will be selected and implemented based on criteria developed by the Division of Highway Safety and mutually agreed upon between the Department of Public Safety and National Highway Traffic Safety Administration, Region VII.

All Police Traffic Services programs will be coordinated with law enforcement agencies in that jurisdiction. Some projects may encompass more than one jurisdictional area, depending on the problem identification and the geographical coverage of traffic problems and high accident areas.

A systems approach will be used to relate enforcement efforts to other operational areas that affect the enforcement, such as the judicial system. Assessments will be made of the levels of efficiency and effectiveness within these agencies to determine other needs for the enhancement of the overall project. This may include additional training or technical assistance in the area of analysis, management or organization. Approximately 24 percent of available 402 funds will be utilized for this effort.

Alcohol Countermeasures: (AL 83-02)

Alcohol involvement in traffic crashes continues to be one of the biggest problems in highway safety. In fatal crashes, 23.8 percent of the drivers involved had been drinking, according to STARS information. In a more comprehensive FARS study, it was found that 60.1% of the drivers killed had been drinking prior to the crash. Programs provided for in this plan will be implemented to reduce, in target areas, the involvement of drinking drivers in serious crashes.

The following operational areas define the four components to be included in an alcohol project: enforcement, adjudication, rehabilitation and prevention. The purpose of each project is to develop and implement an effective alcohol safety program with emphasis being placed on decreasing alcohol-related accidents, injuries and fatalities by:

1. Influencing public attitudes with regard to the risks of driving after drinking.
2. Increasing the proportion of persons with a drinking problem who obtain treatment.

3. Detecting and prosecuting a higher proportion of persons who drive while impaired or intoxicated.
4. Increasing public acceptance of measures designed to reduce drunk driving.
5. Encouraging individuals to take personal actions to deter others from driving after drinking.

Based on what has been learned and experienced in the Alcohol Safety Action Projects, the development of MDHS alcohol projects will be designed around the following:

1. Adopting a locally supervised and coordinated system to handle the drunk driver--involving the police, prosecutors, courts, probation, treatment and public information sectors of government.
2. Designing these systems to be financially self-supporting by placing the burden on the convicted drunk driver through fines and treatment tuition fees.
3. Increasing police emphasis on alcohol law enforcement, following drunk driver apprehension techniques and utilizing the latest support equipment such as roadside breath-alcohol testers (when allowed by law).
4. Adopting a more uniform and consistent approach to driver license sanctions to maximize the application of license suspension and revocations for all convicted offenders.
5. Streamlining court processing procedures to handle increased caseloads while improving the quality of individual case adjudication.
6. Adopting a broader approach to court sanctions by utilizing a number of disposition sanctions for the driving offense including referral to treatment of underlying alcohol problems.
7. Creating a general deterrence climate within the community by tying an effective public education program to the increased enforcement program.

An assessment will also be made to determine the need for alcohol enforcement type training in other areas of the state. The possibility may exist that an impact can be achieved on a particular site merely by providing training and technical assistance, rather than providing increased resources at increased expense. Approximately 28 percent of available 402 funds will be utilized for this effort.

Severity Reduction: (EM 83-03)

Activities in this area will provide for training ambulance personnel and first-responders to accident scenes. Activities specifically covered are as follows:

1. EMT-A 81-Hour Course - This course is the basic required amount of training needed to certify an ambulance attendant under current state guidelines. It was developed and approved by the U.S. Department of Transportation. Attendance in this course will be determined by the previously agreed upon criteria developed to determine priority assessments for students and regional training centers.

2. EMT 20-Hour Refresher Course - Every three (3) years each state certified Emergency Medical Technician (EMT) must be recertified by successfully completing a 20-hour refresher course. This course fulfills these requirements. Priority assignment of students to this course will also be determined by the previously mentioned criteria.
3. EMT-A 480-Hour Course - This is an advanced course designed to provide advanced life-support capabilities. Assignments to this course will be made based on previously developed criteria that has been agreed upon between the Division of Highway Safety and NHTSA, Region VII.
4. EMT-P 60-Hour Refresher Training Course - Refresher training is required, as a minimum, every three years to be certified as an EMT-P.
5. First Responders 40-Hour Course - This is a course designed to train the first responders to an accident scene in order to initiate patient stabilization prior to the arrival of an ambulance. Response time for medical assistance can thereby be greatly reduced in rural areas on a cost effective basis.
6. EMT Training Coordination - To coordinate, monitor and certify the training efforts outlined in these tasks, staff will be provided within the Bureau of Emergency Medical Services. The coordinators have the responsibility of ensuring that NHTSA guidelines are followed for all programs administered by the EMS Bureau.

Approximately 11% of available 402 funds will be utilized for this effort.

Pupil Transportation: (SB 83-04)

The significance of the school bus injury rate is highlighted when compared against Missouri's statewide injury rate from calendar year 1977 through 1979. Based on 100 million miles of travel in Missouri, only 189 people were killed or injured as a result of a traffic accident. The school bus vehicle rate is 70.8% higher than the state's rate.

Through instructor certification programs, individuals will be trained in the proper methods and techniques to teach school bus drivers and to supply the necessary materials to aid them. The aim of instruction is to provide the necessary skills in order to operate a school bus in a safe manner. Approximately 2 percent of available 402 funds will be utilized in this effort.

Occupant Restraint: (DE 83-05)

An investigation was made of all drivers involved in 1977-1979 crashes in the STARS system. All drivers of passenger cars and trucks were included in the analysis. Drivers of buses, motorcycles and farm machinery were excluded since these vehicles normally do not contain seat belts. The following facts were derived from this study:

- * 11.7% of the drivers had been wearing seat belts at the time of the crash.
- * Of those drivers killed in the accident, only 3.8% had been wearing seat belts.
- * Of those drivers receiving a disabling injury, only 6.5% had been wearing seat belts.

The use of restraints will reduce the probability of death in a motor vehicle accident by 90 percent. The overall goal of this area is to increase public awareness of the need for using the restraint devices in automobiles, with the initial thrust of this program being aimed at increasing the use of seat belts and child restraints in automobiles through public information and loaner seat programs. Approximately 3% of available 402 funds will be utilized in this PSP.

Traffic Records: (TR 83-06)

A number of activities are planned for the priority area of traffic records. In addition to those areas to receive funding, a traffic records assessment study will be completed to determine statewide needs in this area. Other activities will include:

1. STARS Information System Maintenance - This system forms the base for all traffic accident records systems currently used in Missouri. A 402 fund phase-out for this program is planned over the next two-year period.
2. Highway Safety Data Processing - This team of analysts provides updated information and design for the traffic records system, as well as providing analysis and problem identification using the STARS statistical data base.
3. Traffic Records Update - A traffic records committee for Missouri has been established to update and revise the current records system.
4. DWI Laws System Support - Resources will be provided to the Missouri State Highway Patrol, as well as other state agencies, to assist in designing and implementing information systems mandated by the state's new drinking driver law.
5. CMSU Traffic Management Information Systems - To establish a terminal interface at the Missouri Safety Center to provide Missouri police agencies interpretive traffic data analysis support services and to design a training course to provide data analysis skills to law enforcement agencies.

All other statistical data bases needed to properly identify problem areas may be included in this section based on the needs assessment of the Traffic Records Committee. Approximately 14 percent of available 402 funds will be utilized in this effort.

55 MPH Enforcement: (PT 83-07)

A speed monitoring study conducted by the Missouri Highway Department in 1981 indicated that Missouri had an overall compliance rate with the 55 mile per hour (MPH) national speed limit of 54%.

Speed-related accidents have been determined to be significant problems in the State of Missouri and in-depth analyses were performed on all fatal and personal injury accidents that occurred in Missouri from 1977 through 1979 and were reported into the Statewide Traffic Accident Records System (STARS). During that three-year period, 127,404 such traffic crashes occurred involving either death or personal injury. Speed was identified as the number one identifiable violation accounting for 19.8% of the total violations. Speed involvement takes on added importance when considering only those crashes resulting in a death. Speed accounted for 28.3% of the total violations in fatal crashes.

The Missouri State Highway Patrol will conduct two major enforcement efforts. The first will be a continuation of C.A.R.E. (Combined Accident Reduction Enforcement). This program is conducted during the six major holidays and holiday weekends in cooperation with adjoining states. The methodology consists primarily of saturation enforcement on roadways speed-related traffic crashes on high accident roadways with each troop. Alcohol enforcement and 55 MPH compliance will also be a part of this effort. The second program will be designed to impact specific high accident areas through increased enforcement of contributing factors and causal violations.

Programs will be implemented to involve 55 MPH roadways surrounding urban and rural areas, with the overall goal being to enforce the national maximum speed limit along with the reduction of speed-related fatalities and injuries.

Emphasis in attempting to obtain compliance with the 55 MPH speed limit is primarily geared to the driver rather than the vehicle or roadway. As such, the types of driver compliance programs can be categorized into one or two general types. The first being aimed at getting the driver to internalize and accept the need for compliance with the national speed limit. In effect, this approach is aimed at developing norms which will bring about a favorable change in the drivers' value structure. Therefore, the driver will voluntarily comply with the 55 MPH speed limit because he or she believes it is the right thing to do. The second type of program is aimed at forcing compliance with the national maximum speed limit through the imposition of punitive sanctions or threat of such sanctions to those drivers violating the law. The drivers comply with the 55 MPH speed limit not because it is right, but because of the potential adverse effect noncompliance could have on them personally and financially.

Approximately 17 percent of available 402 funds will be utilized for this effort.

Engineering: (HD 83-08 through HD 83-12)

This area provides for engineering services, training, intergovernmental coordination, and warning and regulatory signs. These programs assist local governments in upgrading their roadways in regard to engineering as it relates to traffic safety.

The Missouri Department of Public Safety, Division of Highway Safety supports and complies with the letter and the intent of the U.S. Department of Transportation/NHTSA policy relating to Minority and Women's Business Enterprise. All affirmative action plans and minority policies established by the State of Missouri remain in effect.

PROBLEM ANALYSIS SUMMARY

A series of studies has been performed by the Missouri Division of Highway Safety to identify serious traffic safety problems facing the State of Missouri. Comprehensive data analyses were performed in order to understand the underlying causal factors and relationships of these problem areas. The purpose of these studies is to provide to both state and local traffic safety authorities a better understanding of their problems so that effective countermeasure programs can be developed to impact them.

Most of the data for these analyses came from the Statewide Traffic Accident Records System (STARS). Other information was gathered from the State Department of Elementary and Secondary Education, the Highway and Transportation Department, the Bureau of Motor Carrier Safety, the Traffic Division at the Missouri State Highway Patrol and the Federal Fatal Accident Reporting System.

When analyzing traffic accident data, emphasis was placed on those crashes which involved a fatality or personal injury. Property damage accidents were excluded in most of the data analyses for the following two reasons:

1. A primary goal of the Missouri Division of Highway Safety is that "Missouri traffic projects must be geared to prevent the loss of life and to reduce personal bodily injury". The reductions of vehicle property damage and subsequent economic savings are important, yet they are still a secondary goal. Also, if property damage crashes were included, they would become the majority of the accidents in the analytical data base. The resulting interpretations and conclusions would consequently be "biased" toward the less severe traffic accident problem areas.
2. Police property damage accident reporting procedures are not uniform throughout the state. Missouri has a law mandating submission of uniform accidents for crashes involving at least \$500.00 in property damage, but some police agencies with heavy workloads have not abided by this requirement.

For the above reasons, it is believed at the Missouri Division of Highway Safety that a true picture of Missouri's traffic accident problem (with little geographical or jurisdictional bias) can be obtained by relying only on fatal and personal injury crashes. Univariate and bivariate analyses were performed on the raw data using both absolute frequencies as well as percentiles to distinguish significant relationship patterns. The concept of overrepresentation was used when analyzing specific variables. Code values within a variable having high absolute frequencies in relation to the rest were marked for further detailed analysis. Certain code values having extremely low absolute frequencies were culled for further analytical consideration. Variables were also normalized by comparisons against like variables using other complementary traffic activity files. For instance, the age of drivers involved in crashes was compared against age of drivers registered in Missouri. Once a specific traffic problem area was identified, an additional detailed analysis was performed on it. The detailed analysis was aimed at determining how, where, when and why the problem was occurring. Where applicable,

computations were made to determine the central tendency of certain variables. In most cases, mean (average) was the value that was used. The Analysis of Variance (ANOVA) statistical test was employed to determine whether the difference between mean values of comparable data sets were statistically significant.

The primary purpose for these ratings was to assist policymakers in directing countermeasure program activities for those regions of the state where problems are most severe.

An analysis was made of traffic accidents and causative factors, contributing circumstances, roadway conditions and environment, and driver data. Specific problem areas identified were:

Alcohol Involvement:

Alcohol involvement has been identified as a major causal factor contributing to Missouri traffic crashes. Based on a FARS study completed by the Division of Highway Safety on drivers killed in Missouri, 60.1% had been drinking prior to the accident, almost half (46.8%) had a BAC level of over .10. It was found that 28.8% of the drivers were faulted for one or more driver errors in the accident (excluding alcohol or drug usage). Of those drivers faulted, 67.4% had been drinking and 54.7% had a BAC of over .10. Of the drivers not faulted in the accident, only 32.5% had been drinking and 17.5% had a BAC of over .10. Based on this evidence, there seems to be a strong relationship between driver error in fatal crashes and heavy drinking involvement. A more in-depth analysis of this problem area is available in a separate document entitled "Missouri Highway Safety Program 1982 Problem Analysis". A total of 13 cities represent 71.5% of all urban alcohol-related crashes and a total of 15 counties represent 61% of all rural alcohol-related crashes.

Speed Involvement:

Speed was also identified as a major contributing factor in Missouri's traffic crash experience. During a three-year time period (1977 through 1979) there were 127,404 fatal and personal injury traffic crashes in Missouri. A total of 141,128 driver error or vehicle defect violations were listed as contributing circumstances in these crashes. Speed was identified as the number one identifiable violation, accounting for 19.8% of the total violations. Speed accounted for 28.3% of the total violations in fatal crashes. Young drivers were somewhat overrepresented in fatal and personal injury speed-related crashes. The average age of the driver in such accidents was 30.7 years. The average age of the driver in those fatal and personal injury crashes where speed was not involved was 33.7 years of age. In 60.9% of those serious speed-related crashes, one or more of the drivers were under the age of 25. Only 53.0% of all fatal and personal injury crashes had one or more drivers under the age of 25. Male drivers were also a greater problem area when considering serious speed-related crashes. Of all drivers involved in Missouri's fatal and personal injury crashes, 68.4% were male, while 73.4% of those drivers involved in the speed-related accidents were male. The drinking driver was also overinvolved in speed-related crashes. Of all drivers involved in the state's serious accidents, 11.1% had been drinking prior to the accident. However, in speed-related crashes, 19.2% of the drivers had been drinking.

A speed monitoring study conducted by the Missouri Highway Department in 1981 indicated that Missouri had an overall compliance rate with the 55 mile per hour (MPH) national speed limit of 54%.

Based upon information reported to the Fatal Accident Reporting System (FARS), for 1975-1979, the following conclusions have been made.

1. On all roadways in the State of Missouri, 68.8% of all fatal accidents occurred on 55 MPH designated roadways. Whereas, in all other states 51.0% of all fatal accidents occurred on roadways posted at 55 MPH.
2. Fatal accidents in the State of Missouri occurred at a rate of 11% in urban areas and 89% in rural areas.
3. 61.7% of fatal accidents occurred on straight roadway alignment, with 38.3% occurring on curved roadway.

Hazardous Moving Violation Crashes:

Urban involvement has been included as a problem area in the 1983 Highway Safety Plan primarily due to the high concentration of traffic crashes in a relatively small area of the state. During the three-year period from 1977 through 1979 there were 127,404 traffic crashes involving death or personal injury. Of these, 79,280 or 62.2% happened in an urban area. When examining fatal accidents alone, 29.4% occurred in urban areas and 70.6% occurred in rural areas. The "Failed to Yield" violation was overrepresented in the urban crash experience when compared to the statewide total. Of those violations found in all fatal and personal injury crashes, 15.9% were "Failed to Yield". When examining those violations in urban serious traffic crashes, 21.4% were classified as "Failed to Yield". Involvement by community is provided in a separate document entitled "Missouri Highway Safety Program 1982 Problem Analysis". A total of 16 cities represent 80% of all urban fatal and personal injury crashes in Missouri and 62 counties represent 82% of all rural fatal and personal injury crashes.

Severity Reduction:

Maintaining the needed technical expertise of medical attendants who respond to the scene of emergencies has been identified as a significant problem. A law was enacted in 1974 requiring all ambulance attendants to be licensed by the State of Missouri. As part of this certification process, attendants must have a certain type and amount of training. In addition, these attendants are required to be certified a minimum of every three years and take additional refresher courses.

The high turnover rate of attendants is due to low pay and the fact that a large number of ambulance attendants are part-time employees or volunteers. The average salary of a full-time ambulance attendant in Missouri is approximately \$8,500.00. In a 1979 survey of 77 Missouri ambulance districts, it was found that of the ambulance attendants studied, 21% were full-time employees, 21% were part-time employees and 57% were volunteers. In a follow-up 1981 survey, 24% were full-time, 32% were part-time and 44% were volunteers.

Occupant Restraint:

An investigation was made of all drivers involved in 1977-1979 crashes in the STARS system. All drivers of passenger cars and trucks were included in the analysis. Drivers of buses, motorcycles and farm machinery were excluded since these vehicles normally do not contain seat belts. The following facts were derived from this study:

- 11.7% of the drivers had been wearing seat belts at the time of the crash.
- Of those drivers killed in the accident, only 3.8% had been wearing seat belts.
- Of those drivers receiving a disabling injury, only 6.5% had been wearing seat belts.

Drivers who were killed or severely injured wore their seat belts less when compared to all drivers studied.

Another area of emphasis in this category will be Infant Restraints. For children four years of age or less involved in automobile crashes, infant and child restraints have been shown to reduce the probability of death by more than 95%. The probability of serious injury is reduced by up to 78%. (These percentages are based on 1970-1977 accident statistics in the State of Washington.) For children over four years of age, lap belts alone have been shown to reduce the probability of fatal injury by 81% and serious injury by 64%. Unfortunately, less than 7% of all children under 10 years of age are protected by child restraints or lap belts, and most of these devices are inadequate or improperly used. So there is a clear and compelling need to increase the number of children who are protected by infant and child restraint devices and by lap belts. Besides people not knowing that restraints are important for their children, the main reasons for so few children being protected are that parents feel they cannot afford a safety device, cannot decide what device to get or do not know how to use properly that device they have. Child restraint loaner programs have been designed to help solve these problems.

Pupil Transportation:

School bus accidents take on an added importance when normalized by the total number of vehicle miles traveled by the buses. The vehicle injury rate for school buses from July 1976 through June 1979 was 330. This rate indicates that for every 100 million miles of travel, 330 persons associated with the vehicle were either killed or injured as a result of a traffic accident. Individuals associated with the vehicle would include drivers, passengers and persons struck by the vehicle. The significance of the school bus injury rate is highlighted when compared against Missouri's statewide injury rate from calendar year 1977 through 1979. Based on 100 million miles of travel in Missouri, only 189 people were killed or injured as a result of a traffic accident. The school bus vehicle rate is 70.8% higher than the state's rate.

Traffic Records:

Data analysis has become an integral part of the management and planning process associated with Missouri traffic safety programs. This heavy reliance on data gathering and analytical interpretation of information has been largely due to federal grant funding requirements. Missouri traffic authorities have utilized data analysis in management decision making, and are aware of its importance in addressing the statewide problem.

The Missouri Division of Highway Safety is the primary agency responsible for coordination of the state's traffic safety program. One of this agency's main functions is to perform statewide problem analysis in order to identify those causal factors contributing to Missouri's traffic crashes or the severity of such accidents.

Engineering Services: It is often necessary for cities and counties to obtain the services of private consulting engineering firms in order to aid them in correcting operational problems on their streets or highways. Correction of these problems can require detailed studies of traffic flow or evaluation of bridge structure for load-carrying capacity.

In addition, funds are expended for engineering training, intergovernmental coordination, and warning and regulatory signs.

Other:

Other traffic problems identified, but not included because they are not in the emphasis areas, are as follows:

- * Hazardous Materials Involvement
- * Motorcycle Involvement
- * Pedestrian Accidents
- * Truck Involvement
- * Fixed Object Crashes
- * Young Driver Involvement

Analysis was completed on the following, which were determined not to be significant enough to be considered a problem in Missouri's traffic crash activity:

- * Bicycle Involvement
- * Passenger Car Involvement (Although a significant problem area, it was determined not to address this area as a result of countermeasure assessment.)



PROBLEM SOLUTION PLAN PT 83-01
POLICE TRAFFIC SERVICES

Problem Statement

There is a high concentration of traffic crashes in urban areas of the state. An urban area is classified as a community having over 5,000 population. From July 1975 through June 1978, there were 120,027 traffic crashes involving death or personal injury. Of these, 74,051 or 61.7% occurred in an urban area. When examining fatal accidents only, it was found that about one-third (29.7%) occurred in these urban areas.

Analyses were done on the general accident characteristics of serious urban traffic crashes in relation to their initial impact classification. The following is a breakout of this activity:

- * 71.2% involved one vehicle colliding with another
- * 14.1% involved a vehicle colliding with a fixed object
- * 7.4% involved a vehicle colliding with a pedestrian.

In another study, the types of roadways on which these crashes occurred was examined, with the following:

- * 60.7% occurred on city streets
- * 10.5% occurred on state-numbered roads
- * 10.4% occurred on U.S.-numbered roads
- * 6.5% occurred on the interstate system.

It should also be noted that almost one-half (49.9%) of these serious urban crashes had occurred in the business area of the community. The driver violations which contributed to these accidents were varied. However, two of the highest identifiable types of violations were "failed to yield" (21.0%) and "too fast for conditions" or "over the speed limit" (13.5%).

The following is a description of the urban crash involvement based on the population size of Missouri cities:

- * 46.9% occurred in cities over 500,000 population
- * 9.3% occurred in cities having 100,000 to 499,999 population
- * 6.4% occurred in cities having 50,000 to 99,999 population
- * 10.3% occurred in cities having 25,000 to 49,999 population
- * 17.1% occurred in cities having 10,000 to 24,999 population
- * 10.0% occurred in cities having 5,000 to 9,999 population.

Speed was identified as a major problem in Missouri's traffic crash experience. From July 1975 through June 1978, 120,027 traffic crashes occurred in the state involving either death or personal injury. A total of 137,247 driver violations and vehicle defects contributed to these crashes. Speed accounted for 18.2% of the total.

Speed has been determined as a result of analyses to be an integral portion of any rural or urban enforcement-related program. Although this may include some 55 MPH enforcement, it is included in this section as a part of a comprehensive enforcement program.

Speed involvement adds importance when considering only those crashes resulting in death. Of the 4,268 driver violations and vehicle defects which contributed to Missouri's fatal accidents, 27.5% were classified as either "over the speed limit" or "speed too fast for conditions".

When examining the speed-related Missouri fatal and personal injury crashes, a number of significant factors were identified. Of the total crashes, 40.9% were classified as "collision with a fixed object" and 13.5% were "noncollision overturned". These two classification categories were highly overrepresented when compared to all fatal and personal injury accidents. Only 6.4% of the state's serious accidents were "noncollision overturned" and 21.5% were "collision with a fixed object".

There was an overrepresentation of speed-related serious crashes on weekends. Of the total, 35.2% occurred on Saturday and Sunday.

Young driver involvement in speed-related crashes was high. In 61.2% of these accidents, one or more of the drivers were under the age of 25 years. The drinking driver was also overinvolved in these crashes--16.1% of the drivers had been drinking.

Rural areas of the state had a significantly higher frequency of speed-related serious accidents. Of the total, 60.1% of these crashes occurred in rural areas of the state. When examining only the speed-related fatal accidents, it was discovered that 75.0% happened in rural areas.

In a further analysis of rural traffic crashes, it was found that 59.4% of Missouri's fixed object serious crashes occurred in rural areas. Only 32.5% of all other fatal and personal injury traffic crashes over the same time period occurred in rural areas of the state.

Problem Solution

Selective enforcement sites will be continued based upon performance and effectiveness and new sites will be implemented based upon approved selection criteria. These sites will, as a part of the overall plan, develop and utilize selective enforcement procedures. Measurement will be based on the target areas selected for enforcement.

In order to maximize the impact of local resources, manpower and equipment will be allocated based upon analyses conducted by the Missouri Division of Highway Safety. Such allocations will be based upon the following: identification of high accident locations, time of day, day of week and any other associated factors. Both the regular and traffic sections of all participating departments will be involved in the enforcement effort since the accident enforcement effort should be a departmentwide activity rather than solely the responsibility of the traffic bureau.

Though a department may not receive manpower and/or equipment from MDHS, it may be provided with technical professional assistance in regard to system upgrading, training or other identifiable needs associated with the efficient and effective operation of a traffic enforcement bureau.

A set of funding statements and eligibility criteria have been developed to assist management in objectively selecting sites for funding, based on a number of variables. These sets of criteria preclude the need for establishing sites prior to HSP development. Funding sites meeting these sets of criteria may be funded without prior approval from NHTSA. Updates to the plan will be made as sites are selected, with informational contracts to be provided to NHTSA. The guidelines and criteria for this problem area are as follows:

PTS SITES

SELECTION CRITERIA

Urban

I. Site Selection

A. Related Accident Activity

Applicant's crash experience (fatal and personal injury accidents) for the past three (3) years must rank in the top third of state's accident activity, by three (3) years STARS data base.

B. Ranking Priority

Applicants will be prioritized accordingly to total of three (3) years of accident experience for selection purposes.

C. Conditions

1. First priority will be considered for those agencies not having received funding since FY 73.
2. Second priority will be considered for those agencies not having received funding since FY 76.
3. Third priority will be considered for those agencies not having received funding since FY 79.

D. Other Considerations

1. All previous 402 funded resources and activities must be in place and utilized for their intended purposes.
2. A contribution of existing local resources should be made to assist in impacting the problem.

II. Funding Limitations

A. Manpower

1. Full-time traffic officers may be provided, if the officer funded is an addition to the authorized department uniformed patrol strength. The following costs are eligible:

Base salary only of full-time officer.

- a. First year, 100% of base salary.
 - b. Second year, 70% of base salary.
 - c. Third year, 50% of base salary.
2. Cost of overtime is allowable only under the following conditions:
- a. All other competing priority projects have been considered which utilize new or expanded police traffic units.
 - b. Permanent increases in total department uniform patrol strength is not possible under existing state or local statutes. (FY '82 HSP Guidelines)
3. Overtime rate will be reimbursed at a rate not in excess of 1 1/2 times the pay for the highest level patrolman in the organization or 1 1/2 times the base pay, whichever is lowest. Overtime reimbursement does not include fringe benefits and training time, but may include court time for cases related to enforcement project.

B. Operations

Motor Vehicles

402 funding is limited to operating and routine maintenance costs only. Purchase or rental of vehicles is not eligible. An established mileage rate may be used, consistent with 402 Guidelines.

To establish a priority ranking system for eligible city Police Traffic Services (PTS) sites, applicants will be assessed points based on the factors described below. Those applicants with the highest number of points will receive priority consideration.

1. Urban Traffic Accident Priority Assessment - The applicant will be assessed points based on the latest available three years fatal and personal injury crash experience in their community in relation to Missouri's urban traffic accident experience.

The following formula and point criteria will be utilized:

City 'X' Fatal and Personal Injury Accidents
Missouri Urban Fatal and Personal Injury Accidents

Points: (100 maximum)

100 = 2.0% and over
75 = 0.8% thru 1.9%
50 = 0.4% thru 0.7%
25 = 0.2% thru 0.3%
0 = 0.1% and under

2. Urban Traffic Accident/Resource Priority Assessment - The applicant will be assessed points based on their community's latest annual fatal and personal injury traffic crash experience in relation to manpower availability.

The following formula and point criteria will be utilized:

City 'X' Fatal and Personal Injury Accidents
Number of Field Officers

Points: (100 maximum)

100 = 1:12 and above
75 = 1:9 to 1:11.9
50 = 1:5 to 1:8.9
25 = 1:3 to 1:4.9
0 = 1:2.9 and under

3. Enforcement/Resource Assessment - The applicant will be assessed points based on their previous traffic enforcement activity in relation to manpower availability.

The following formula and point assessment criteria will be utilized.

Hazardous Moving Violation Citations
Number of Field Officers

Points: (50 maximum)

50 = over 1:175.0
30 = 1:126 to 1:174.9
20 = 1:77 to 1:125.9
10 = 1:28 to 1:76.9
0 = 1:27.9 and under

4. Special Consideration Assessment - The applicants may be assessed up to 50 points based on special conditions such as:

*Priority #1 = 50 points
*Priority #2 = 25 points
*Priority #3 = 0 points

Rural

I. Site Selection

A. Related Accident Activity

Applicant's crash experience (fatal and personal injury accidents) for the past three (3) years must rank in the top third of state's rural accident activity, by three (3) years STARS data base.

B. Ranking Priority

Applicants will be prioritized accordingly to total of three (3) years of accident experience for selection purposes.

C. Conditions

1. First priority will be considered for those agencies not received funding since FY 73.
2. Second priority will be considered for those agencies not received funding since FY 76.
3. Third priority will be considered for those agencies not received funding since FY 79.

D. Other Considerations

1. All previous 402 funded resources and activities must be in place and utilized for their intended purposes.
2. A contribution of existing local resources should be made to assist in impacting the problem.

II. Funding Limitations

A. Manpower

1. Full-time traffic officers may be provided, if the officer funded is an addition to the authorized department uniformed patrol strength. The following costs are eligible:

Base salary only of full-time officer.
 - a. First year, 100% of base salary.
 - b. Second year, 70% of base salary.
 - c. Third year, 50% of base salary.
2. Cost of overtime is allowable only under the following conditions:
 - a. All other competing priority projects have been considered which utilize new or expanded police traffic units.
 - b. Permanent increases in total department uniform patrol strength is not possible under existing state or local statutes. (FY '82 HSP Guidelines)
3. Overtime rate will be reimbursed at a rate not in excess of 1 1/2 times the pay for the highest level patrolman in the organization or 1 1/2 times the base pay, whichever is lowest. Overtime reimbursement does not include fringe benefits and training time, but may include court time for cases related to enforcement project.

B. Operations

Motor Vehicles

402 funding is limited to operating and routine maintenance costs only. Purchase or rental of vehicles is not eligible. An established mileage rate may be used, consistent with 402 Guidelines.

To establish a priority ranking system for eligible county Police Traffic Services (PTS) sites, applicants will be assessed points based on the factors described below. Those applicants with the highest number of points will receive priority consideration.

1. Rural Traffic Accident Priority Assessment - The applicant will be assessed points based on the latest available three years fatal and personal injury crash experience in their jurisdiction in relation to Missouri's rural traffic accident experience.

The following formula and point criteria will be utilized:

County Fatal and Personal Injury Rural Accidents (excluding interstates)
Missouri Rural Fatal and Personal Injury Accidents (excluding interstates)

Points: (100 maximum)

100 = 2.0% and over
 75 = 1.0% - 1.9%
 50 = 0.6% - 0.9%
 25 = 0.4% - 0.5%
 0 = 0.3% and under

2. Rural Traffic Accident/Resource Priority Assessment - The applicant will be assessed points based on their jurisdiction's latest annual fatal and personal injury traffic crash experience in relation to manpower availability.

The following formula and point criteria will be utilized:

County Fatal and Personal Injury Rural Accidents (excluding interstates)
Number of Field Officers

Points: (100 maximum)

100 = 1:35 and over
 75 = 1:27 - 1:34.9
 50 = 1:18 - 1:26.9
 25 = 1:9 - 1:17.9
 0 = 1:8.9 and under

3. Main Artery - 20 miles minimum (0 or 50 points)

<u>Interstates</u>	<u>U.S.</u>
70	71
55	54
44	50
35	63
29	65
	36
	61
	24
	60
	67
	136

4. Special Consideration Assessment

A maximum of 50 points may be assigned at the discretion of MDHS Director.

- *Major construction
- *Recreation, industrial development
- *Change in county government philosophy toward highway safety
- *Other

Goals

The overall goals of this PSP are to reduce, in targeted areas, the total fatal and personal injury accidents by 10% compared to the past fiscal year of activity. These goals will be measured by use of the Statewide Traffic Accident Records System, relying on the data reported by agencies funded under this PSP.

Evaluation Plan

The evaluation design will consist of pre- and post-test comparisons of all fatal and injury data as supplied by the STARS system.



PSP TITLE: Police Traffic Services

PSP Number

STATE

Page

PT 83-01

Missouri

1 of 5

OBJECTIVE(S): To increase enforcement in each target area by 10% and decrease injury and fatal accidents by 10% as compared to the last three (3) years of activity.

- TIME FRAMES -

Subgrantee	Descriptive Project Titles	Input	Output	Current FY	FY +1	FY +2	FY +3
MDHS B.P.D. G.P.D. K.P.D. M.P.D. M.P.D.	1. Project Continuations - PTS Sites 1. Continue Project in Berkeley P.D. 2. Continue Project in Grandview P.D. 3. Continue Project in Kirksville P.D. 4. Continue Project in Marshall P.D. 5. Continue Project in Maryville P.D.	19 Sites 2 FTE 3 FTE 2 FTE 1 FTE 1 FTE	Increase HMV Arrests Increase HMV Arrests Increase HMV Arrests Increase HMV Arrests Increase HMV Arrests				
Program Area Code	Current Year Major Cost Items By Project	402 to Local	402 Federal	Local Share	State Share	Total	
315	1. Project Continuations - PTS Sites	269.7	269.7			269.7	
315	1. One salary @ 70% thru 3/31/83, then 50% thru 9/30/83; 1 salary @ 50% thru 3/31/83 (15.7)			21.2		21.2	
315	2. Two salaries @ 70% thru 3/31/83, then 50% thru 9/30/83; one salary @ 100% thru 9/30/83 training (63.8)			14.4		14.4	
315	3. One salary @ 70% thru 3/31/83, then 50% thru 9/30/83. One salary @ 100%. Training and radar(28.8)			6.6		6.6	
315	4. One salary @ 70% thru 3/31/83, then 50% thru 9/30/83 (8.9)			5.6		5.6	
315	5. One salary @ 50% thru 3/31/83 (3.7)			11.1		11.1	
Totals							

PSP TITLE: Police Traffic Services

PSP Number	STATE	Page
PT 83-01	Missouri	2 of 5

OBJECTIVE(S): Same as shown on Page 1 of this PSP.

- TIME FRAMES -

Subgrantee	Descriptive Project Titles	Input	Output	Current FY	FY +1	FY +2	FY +3
R.P.D.	6. Continue Project in Rolla P.D.	2 FTE	Increase HMV Arrests		-4		
W.P.D.	7. Continue Project in Warrensburg	2 FTE	Increase HMV Arrests				
W.P.D.	8. Continue Project in Wentzville P.D.	1 FTE	Increase HMV Arrests		-1		
U.P.D.	9. Continue Project in University P.D.	2 FTE	Increase HMV Arrests		4		
N.Co.	10. Continue Rural Project in Newton County	3 FTE	Increase HMV Arrests			-4	
MDHS	2. Project Support Training, Local	10 Classes	200 Students				
MDHS	3. Project Support Training, State	20 Classes	400 Students				

Program Area Code	Current Year Major Cost Items By Project	402 to Local	402 Federal	Local Share	State Share	Total
315	6. One salary @ 70% thru 3/31/83, then 50% thru 9/30/83; One salary @ 100% thru 9/30/83, radar, training (29.0)			6.6		6.6
315	7. One salary @ 50% thru 3/31/83; One salary @ 100% thru 9/30/83 (23.5)			10.6		10.6
315	8. One salary @ 70% thru 3/31/83, then 50% thru 9/30/83 (9.2)			6.1		6.1
315	9. Two salaries @ 70% thru 3/31/83, then 50% thru 9/30/83 (22.1)			14.7		14.7
315	10. Three salaries @ 100% thru 6/30/83, then 70% thru 9/30/83. Training, maintenance (65.0)			-0-		
315	2. Radar, DWI Specialized Training	-0-	80.0	-0-	-0-	80.0
315	3. Traffic Enforcement Training	-0-	60.7	-0-	-0-	60.7
Totals						

PSP TITLE: Police Traffic Services

PSP Number

STATE

Page

PT 83-01

Missouri

3 of 5

OBJECTIVE(S): Same as shown on Page 1 of this PSP.

- TIME FRAMES -

Subgrantee	Descriptive Project Titles	Input	Output	Current FY	FY +1	FY +2	FY +3
MDHS F.Co. C.G.Co. St.J.P.D. B.P.D. B-R P.D. B.P.D. B.H.P.D.	4. New Selective Enforcement Sites 1. New site in Franklin County 2. New site in Cape Girardeau County 3. New site in St. Joseph 4. New site in Ballwin 5. New site in Bel-Ridge 6. New site in Belton 7. New site in Breckenridge Hills	19 Sites 3 FTE 2 FTE Equipment 2 FTE 1 FTE 1 FTE 2 FTE	Increase HMV Arrests Increase HMV Arrests Increase HMV Arrests Increase HMV Arrests Increase HMV Arrests Increase HMV Arrests Increase HMV Arrests Increase HMV Arrests				
Program Area Code	Current Year Major Cost Items By Project	402 to Local	402 Federal	Local Share	State Share	Total	
315 315 315 315 315 315 315	4. Overtime, Mileage, Project Support Equipment 1. Three salaries @ 100% thru 9/30/83. Training, Radar (51.1) 2. Two salaries @ 100% starting 12/1/82 thru 9/30/83 Radar, Mileage, Training (60.0) 3. Radar (3.4) 4. Two salaries @ 100% thru 9/30/83. Radar, Training (51.8) 5. One salary @ 100% then 9/30/83. Training (19.5) 6. One salary @ 100% thru 9/30/83. Radar, Training (29.2) 7. Two salaries @ 100% thru 9/30/83. Radar, Training (38.8)	686.8	686.8	-0-	-0-	686.8	
Totals							

PSP TITLE: Police Traffic Services

PSP Number	STATE	Page
PT 83-01	Missouri	4 of 5

OBJECTIVE(S): Same as shown on Page 1 of this PSP.

- TIME FRAMES -

ubgrantee	Descriptive Project Titles	Input	Output	Current FY	FY +1	FY +2	FY +3
B.P.D.	8. New site in Brentwood	1 FTE	Increase HMV Arrests				
Col.P.D.	9. New site in Columbia	5 FTE	Increase HMV Arrests				
D.P.D.	10. New site in Dellwood	1 FTE	Increase HMV Arrests				
F.P.D.	11. New site in Farmington	1 FTE	Increase HMV Arrests				
N.K.C.P.D.	12. New site in North Kansas City	1 FTE	Increase HMV Arrests				
O.B.P.D.	13. New site in Osage Beach	1 FTE	Increase HMV arrests				

Program Area Code	Current Year Major Cost Items By Project	402 to Local	402 Federal	Local Share	State Share	Total
315	8. One salary @ 100% thru 9/30/83, Radar, Training (23.8)					
315	9. Five salaries @ 100% thru 9/30/83, Radar, Training (116.3)					
315	10. One salary @ 100% thru 9/30/83, Radar, Training (23.3)					
315	11. One salary @ 100% thru 9/30/83, Radar, Mileage, and Training (25.6)					
315	12. One salary @ 100% thru 9/30/83, Radar, Training (21.3)					
315	13. One salary @ 100% thru 9/30/83, Radar, Training (18.1)					

Totals

PSP TITLE: Police Traffic Services

PSP Number	STATE	Page
PT 83-01	Missouri	5 of 5

OBJECTIVE(S): Same as shown on Page 1 of this PSP.

- TIME FRAMES -

Subgrantee	Descriptive Project Titles	Input	Output	Current FY	FY +1	FY +2	FY +3
O.P.D.	14. New site in Overland	2 FTE	Increase HMV Arrests		---	---	
P.P.D.	15. New site in Perryville	1 FTE	Increase HMV Arrests		---	---	
St.C.P.D.	16. New site in St. Charles	1 FTE	Increase HMV Arrests		---	---	
S.H.P.D.	17. New site in Sunset Hills	1 FTE	Increase HMV Arrests		---	---	
W.G.P.D.	18. New site in Webster Groves	2 FTE	Increase HMV Arrests		---	---	
M.Co.	19. New site in McDonald County	1 FTE	Increase HMV Arrests		---	---	
MDHS	5. Total Program Match				---	---	---

Program Area Code	Current Year Major Cost Items By Project	402 to Local	402 Federal	Local Share	State Share	Total
315	14. Two salaries @ 100% from 11/30/83 thru 9/30/83, Radar, Training (46.3)					
315	15. One salary @ 100% thru 9/30/83, Radar, Mileage, Training (22.3)					
315	16. One salary @ 100% thru 9/30/83, Radar, Training, (28.6)					
315	17. One salary @ 100% thru 9/30/83, Radar, Training, (25.1)					
315	18. Two salaries @ 100% thru 9/30/83, Radar, Training, (59.0)					
315	19. One salary @ 100% thru 9/30/83, Radar, Mileage, Training (23.3)					
315	5. Total Program Match	-0-	-0-	-0-	800.0	800.0
	Totals	955.7	1,097.2	96.9	800.0	1,994.1

PROBLEM SOLUTION PLAN PT 83-01
PROJECT NARRATIVES FOR
POLICE TRAFFIC SERVICES

1. Continuations

These projects will provide for traffic officers' salaries in rural and urban areas. Selective enforcement activities will be carried on by these project sites. To be eligible for continuation, each site must individually demonstrate a measure of performance in the project through increased selective enforcement, decreased traffic crashes or a combination of variables that may be used to indicate success of the project, as provided for in each contract and evaluations or performance indicators specified in the contracts.

2. Project Support Training, Local

Funds in this project will be provided to upgrade the level of proficiency in law enforcement agencies in the state. Those sites currently having projects with the Division of Highway Safety will receive priority consideration for attending schools to be held regionally or at the State Law Enforcement Academy. Attendance will be based on skills needed within the local agency. Other agencies may attend based on the needs of the agency. Impact may therefore be achieved in those locations not receiving funding, merely by providing a level of expertise through training programs. An effort will be made to secure training funds for this activity from those agencies capable of paying for the training of their officers. Films, for training purposes, may be purchased in this project with prior approval from DPS.

Schools presently scheduled are:

55 MPH Enforcement
Vehicular Homicide
Alco-Analyzer Certification

Radar Certification
DWI Detection
Accident Investigation
Breathalyzer (900 and 900A)

3. Project Support Training, State

Funds will be provided in this project to upgrade traffic safety-related capabilities of Highway Patrol personnel.

Schools presently scheduled are Advanced Accident Investigation and Commercial Vehicle Equipment Training. These courses are continuations of projects from FY '82 and are continued as a result of late implementation in FY '82.

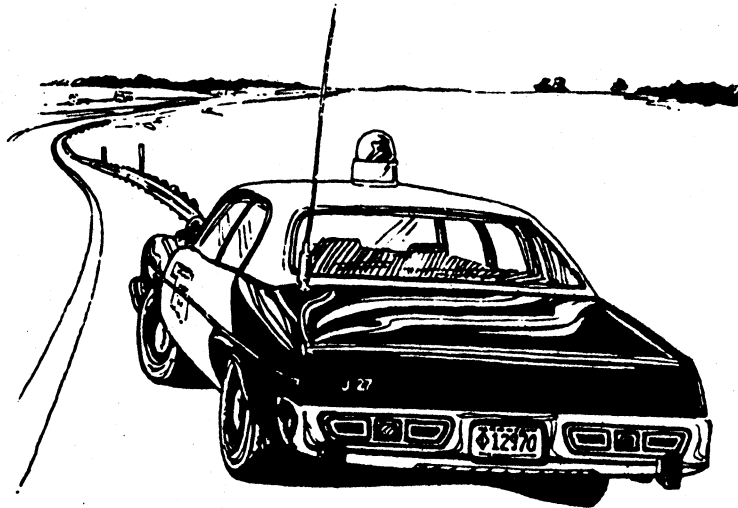
All training conducted for Highway Patrol personnel at the State Academy must be above normal in-house training and will be reimbursed at a rate of \$28.00 per day, per student.

4. New Selective Enforcement Sites

Selective enforcement sites will be determined by need, accident involvement and probability of success. Sites will be determined and implemented based on site selection criteria shown in this PSP narrative. Exceptions to the criteria will be approved by MDHS and NHTSA prior to implementation.

5. Total State Program Match

Salaries of the Highway Patrol's officers will be used as the state match. More than 90 percent of the Patrol activities are traffic related. The State Patrol budget greatly exceeds the amount needed as an in-kind or "soft" match as required in the Highway Safety Act.



PROBLEM SOLUTION PLAN AL 83-02
ALCOHOL INVOLVEMENT

Problem Statement

A series of analyses were done to determine the effect that drinking and driving has had on Missouri's traffic accident experiences. As a result of these analyses (which indicated that 60% of all drivers killed in traffic crashes had been drinking), alcohol driver involvement has been included as a statewide traffic safety problem area in the 1983 HSP.

Missouri has a total of 114 counties, plus the City of St. Louis, which is not located in a county. A univariate frequency distribution for the years 1978 through 1980 of fatal and personal injury alcohol involved urban accidents by city identified the top 13 cities ranking 1.2% or greater. The top 13 cities are shown below by rank, frequency and percent of statewide activity.

<u>City</u>	<u>Frequency</u>	<u>Percent</u>
Kansas City	3,470	33.7
St. Louis	939	9.1
Independence	620	6.0
Springfield	534	5.2
St. Joseph	357	3.5
Joplin	282	2.7
Columbia	258	2.5
Bridgeton	208	2.0
St. Charles	172	1.7
Jefferson City	157	1.5
Cape Girardeau	125	1.2
Raytown	119	1.2
Lee's Summit	119	1.2

Findings from another study conducted by the Missouri Division of Highway Safety indicated that alcohol involvement in traffic crashes was seriously underreported. The magnitude of the problem appears to be much greater than the statistics above would indicate.

The top 15 counties according to a univariate frequency distribution appear below: (Rural alcohol-related fatal and personal injury traffic crashes)

<u>County</u>	<u>Frequency</u>	<u>Percent</u>
Jackson	4,332	20.7
St. Louis	2,696	12.9
St. Louis City	937	4.5
Greene	729	3.5
Jefferson	718	3.4
Jasper	530	2.5
St. Charles	481	2.3
Buchanan	458	2.2

15 counties according to a univariate frequency continued:

<u>County</u>	<u>Frequency</u>	<u>Percent</u>
Franklin	357	1.7
Cole	300	1.4
Newton	265	1.3
Platte	252	1.2
Callaway	248	1.2
Johnson	224	1.1
Cape Girardeau	235	1.1

A special study was conducted by the staff of Division of Highway Safety which highlights the significance of drinking driver involvement in serious traffic accident activity. This study was based on Missouri fatal accident data as well as coroners' reports on Blood Alcohol Content (BAC) levels of drivers killed in the traffic crashes. (This FARS Alcohol Study, 1977-1978, is available at the Missouri Division of Highway Safety.) The purpose of this study was to determine the true amount of drinking associated with those drivers who were killed in Missouri traffic accidents. A second and equally important consideration was to determine if drinking by the driver was correlated with driver error which caused the accident.

Drivers killed in 1977 and 1978 Missouri traffic accidents were analyzed. A total of 378 of the drivers were selected for the study based on the fact that their actual blood alcohol content test results were available for examination. Of the 378 drivers analyzed, 60.1% had been drinking prior to the accident. Almost half (46.8%) had a BAC level of over .10% which is the legal presumptive level of intoxication in the State of Missouri.

The results of the driver's drinking involvement was compared with driver errors committed in the crashes. It was discovered that 298 of the drivers were faulted for one or more driver errors in the accident (excluding alcohol or drug usage). Of these drivers, 67.4% had been drinking and 54.7% had a BAC of over .10%. Conversely, a total of 80 drivers were not faulted in the crash for a driver error. Of this subgroup, only 32.5% had been drinking and 17.5% had a BAC of over .10%. Based on these results, there does seem to be a strong relationship between driver error in fatal crashes and drinking involvement.

An in-depth analysis was performed on drinking driver involvement associated with three years of Missouri's fatal and personal injury traffic accident experience. The accident data utilized was derived from the Statewide Traffic Accident Records System (STARS). It includes all fatal and personal injury traffic accidents occurring in the state from 1977 through 1979.

A total of 127,404 fatal and personal injury accidents occurred in Missouri from 1977 through 1979. There were a total of 209,314 drivers involved in these crashes. Of these, 20,969 or 11.1% had been drinking. The drinking driver was overinvolved in the worst of these crashes. In fatal crashes, 23.8% of the drivers were drinking. In the worst injury accidents involving one or more persons receiving a disabling injury, 16.6% of the drivers had been drinking.

The youth is overinvolved in drinking and driving. The average age of the drinking driver involved in these collisions was 30.9 years of age. The average age of the nondrinking driver was 34.3 years of age. That is a 3.4 year difference in the average age of these two groupings.

Also, 42.3% of all drivers who were drinking were between 20 and 29 years of age. Of all drivers involved in these serious crashes, 35.1% were in this age group.

Drinking involvement by male drivers was significantly overrepresented when compared to all drivers involved in these collisions. Of all drivers who had been drinking, 86.8% were males. Of all drivers involved in these collisions, 68.2% were males.

Of the drinking drivers, 89.0% were licensed in the State of Missouri, 65.2% were the owners of the vehicle they were driving and 65.4% were not residents of the community where the accident occurred which is significantly higher than all the drivers involved in these collisions. Only 54.3% of all drivers were nonresidents.

An analysis was also conducted on driver errors and vehicle defects which contributed to causing those accidents where one or more drivers had been drinking. It should be understood that the violations cannot be specifically attributed to the drinking driver if more than one driver was in the accident. This is due to the way data is encoded from the accident report into the STARS data base. The following are the significant types of contributing circumstances found in these serious crashes where drinking was involved (drinking usage was excluded as a violation type):

- * 34.7% were classified as either "over the speed limit" or "too fast for conditions"
- * 25.2% were classified as "other"
- * 14.7% were classified as "wrong side - not passing"
- * 7.8% were classified as "failed to yield"
- * 4.6% were classified as "following too close".

A series of analyses were conducted on those Missouri fatal and personal injury traffic accidents where one or more drivers had been drinking. The following are some of the results from those studies.

An analysis of all drinking driver-related serious crashes was completed based upon the initial impact associated with the accident. Of these:

- * 47.5% were classified as "one motor vehicle colliding with another motor vehicle"
- * 39.6% were classified as "collision with a fixed object"
- * 9.5% were classified as "noncollision - overturn".

"Collision with a fixed object" was significantly overrepresented in these accidents compared to all serious crashes in the state--39.6% were classified in this manner. Only 21.1% of the state's total fatal and personal injury crashes were collision with a fixed object type of accidents.

"Noncollision - overturn" was also overrepresented. Of the drinking driver accidents, 9.5% fell into this category while only 6.4% of the state's total serious crashes were categorized in this manner.

Of the drinking driver serious accidents, 47.5% were classified as one vehicle colliding with another on initial impact. Of the 9,384 accidents classified this way:

- * 36.7% were "rear end" collisions
- * 29.3% were "angle" collisions (Of these, 67.1% were at an intersection.)
- * 16.8% were "head-on" collisions
- * 8.0% were "sideswipe meeting" collisions
- * 5.9% were "sideswipe passing" collisions.

Problem Solution

A comprehensive systems approach will be implemented within certain jurisdictions of the highest ranked alcohol-related problem areas.

The main areas of emphasis in these programs will be to conduct programs deterring the majority of drunk drivers who are never arrested. Activities will be designed to influence public attitudes with regard to the risks of driving after drinking, and to concentrate the programs at the local level. To encourage individuals to take personal actions to deter others from driving after drinking and to increase public acceptance of measures designed to reduce drunk driving.

To sustain long-term efforts of any program, it is necessary to continue the effort with some level of funding. A system will be designed to be financially self-supporting by placing the burden on the convicted drunk driver through fines and treatment tuition fees.

A part of the activity in the problem solution is to assess all components and design a systemwide master plan approach to the problem that incorporates police, courts, treatment and the media to deal with the drunk driver problem.

A set of funding statements and eligibility criteria have been developed to assist management in objectively selecting sites for funding, based on a number of variables. These sets of criteria include the need for establishing sites prior to HSP development. Funding sites meeting these sets of criteria may be funded without approval from NHTSA. Updates to the plan will be made as sites are selected, with informational contracts to be provided to NHTSA. The guidelines and criteria for this problem area are as follows:

GUIDELINES FOR ALCOHOL/DRUG TRAFFIC SAFETY PROJECTS

I. Purpose

The purpose of this program is to develop and implement comprehensive, community-based general deterrence alcohol traffic safety programs in selected cities and counties throughout the state. Program efforts will be directed toward promoting necessary changes in community alcohol programs through the use of technology transfer, technical assistance, training, and networking efforts. This will require a locally coordinated/managed counter-measure system which integrates the functions of the police, prosecutors,

courts, probation, education/treatment, and public information (media) to improve both the effectiveness of the system as well as individual components. The State's effort in this area will be concentrated in carefully chosen communities, preferably on a regional basis, with receptive "climates", in order to enhance the possibility of effecting significant change.

II. Site Eligibility

A. Alcohol-Related Accident Activity

1. City's crash experience (fatal and personal injuries) over three years exceed 1% of the statewide urban alcohol involved accidents.
2. City's are a contiguous group of urban areas experiencing a combined total of over 1% the statewide urban alcohol involved accidents.
3. County jurisdiction whose crash experience (fatal and personal injury) over three years exceeds 1.5% of the statewide rural alcohol-related accidents excluding Interstate System.
4. Two or more contiguous jurisdictions, comprised of county and municipalities, having a combined total of at least 1.5% of the statewide alcohol-related traffic crash activity over three years (fatal and personal injury).

B. Ranking Priority

Applicants will be prioritized according to total of three years of alcohol-related accident experience for selection purposes.

C. Mandatory Criteria

1. Conduct an assessment of current status of each component and develop a master plan to respond to deficiencies.
2. Willingness to implement a comprehensive community alcohol traffic safety program and provide some existing local resources in response to identified deficiency needs.
3. Evidence of support among enforcement agencies, prosecuting attorney's office, court, education and treatment agencies, private interest groups, etc.
4. Evidence of potential success to include an effective organizational plan and framework. State/local coordination, planning and potential for self-sufficiency and utilization of a general deterrence approach.
5. Provision for program evaluation, including adequate and available traffic records, analysis and data reporting procedures and availability to measure impact.
6. Development of constituencies from the public and private sector and citizen organizations to gain support for action in the alcohol traffic safety area.

III. Conditions

A. Training

1. Grant enforcement personnel must attend a MDHS approved DWI detection course within 90 days from implementation of enforcement activities. Any personnel that pass DWI detection course pre-test provided by MDHS will not be required to attend.
2. All enforcement personnel are encouraged to attend DWI detection course within 180 days from implementation of project.
3. Encourage DWI detection course to be taught in basic training for recruits.

B. Capability

1. Applicant must have access to breath-test instrument within jurisdiction.
2. Trained breath-test operators must be available during target enforcement times.

C. Support Capability

1. Must have vehicles available to support overtime deployment without reducing normal patrol operations.
2. Must have access to or be willing to develop rehabilitation/education treatment programs for DWI offenders.

D. Operations

1. Agency must complete necessary reporting and monitoring forms as required by MDHS. (Attachment A)
2. Agency is encouraged to make enforcement times and locations available to news media in advance of activity.
3. Agency is encouraged to make arrest information and court disposition of cases available to news media on a timely basis.
4. DWI enforcement activity must be coordinated with other law enforcement agencies having traffic enforcement jurisdiction over the same area.

IV. Funding Limitations

A. Manpower

1. Full-time traffic officers may be provided, if the officer funded is an addition to the authorized department uniformed patrol strength. The following costs are eligible:

Base salary only of full-time officer.

- a. First year, 100% of base salary.
 - b. Second year, 70% of base salary.
 - c. Third year, 50% of base salary.
2. Cost of overtime is allowable only under the following conditions:
 - a. All other competing priority projects have been considered which utilize new or expanded police traffic units.
 - b. Permanent increases in total department uniform patrol strength is not possible under existing state or local statutes.
 3. Hourly rate for reimbursement on an overtime basis will not exceed 1 1/2 times the pay for the highest level patrolman in the organization. or 1 1/2 times the basic pay, whichever is lowest. Overtime reimbursement does not include fringe benefits and training time, but may include court time for cases related to project enforcement activities.
 4. If DWI detection training is done on an in-service basis, instructor time may be eligible for reimbursement provided this instruction is done on an overtime basis and does not fall within normal scope of duties.
 5. Based on a needs determination within the system, additional resources may be provided in the following areas:
 - a. Probation for DWI offenders.
 - b. Rehabilitation and education support.
 - c. Support in the prosecutors office for alcohol-related traffic offenses.
 - d. Training programs for the judiciary and prosecutors.
 - e. Training for community-based citizen groups.
 - f. Substance abuse school training programs.

B. Operations

1. Equipment

- a. Vehicle maintenance costs and operations may be allowable as project costs based on per mile rate based on local guidelines.
- b. Project supplies and equipment may be considered for funding if justification supports its need as determined by MDHS.

2. Manpower Allocations

Deployment based upon day of week and time of day will be determined from Alcohol-Related Accident Analysis.

V. Evaluation

Procedures and criteria will be determined by MDHS. Costs associated with evaluation to local jurisdiction may be considered eligible for reimbursement.

Goals

The goal of this program activity will be to reduce alcohol-related traffic crashes in relation to all traffic crashes in the selected sites. This will be accomplished by achieving the following objectives:

1. Increase the alcohol-related arrest risk perception of the public.
2. Increase the percent of those convicted of DWI.
3. Detect and prosecute a higher percent of alcohol-related offenders.
4. Increase public acceptance of DWI enforcement and alcohol programs.
5. Encourage individuals to take personal action to deter others not to drive drunk.

Target Objectives

1. Enforcement
 - a. Average 1.25 DWI arrests per man, per 8-hour shift (project personnel).
 - b. Average .7 (urban) and .5 (rural) DWI arrests per man, per 8-hour shift for regular patrol.
 - c. At least 85% of DWI arrests have BAC determined.
 - d. No more than an average of 1.5 hours of officer down-time per DWI arrest.
2. Prosecution
 - a. No more than 15% of case plea bargained to a lesser offense.
 - b. At least 80% conviction rate on original charge.
 - c. Not more than 5% nolle-prossed.
 - d. Prosecute all .13 BAC or higher.
 - e. Not more than 14 days from arrest to court docket.
3. Screening and Referral (Pre-sentence investigation)

At least 80% of referral recommendations accepted by court.
4. Probation

Eighty percent of probation violations resolved.



5. Courts

- a. One hundred percent of convictions receive license sanction.
- b. No more than one continuance per case.
- c. Ninety percent of guilty cases utilize presentence investigation reports.

6. Rehabilitation

- a. Existing rehabilitation services are utilized by court.
- b. Costs are paid by violator.

7. Public Information

- a. There is a concentrated DWI Public Information Program.
- b. The activity is fully coordinated.
- c. All DWI arrests and/or convictions are printed in local newspaper.

8. Education

- a. State has developed a K-12 alcohol education program.
- b. At least 80% of the K-12 students are exposed to the curriculum.

9. Advocacy Groups

There is at least one DWI advocacy group within the community.

10. Financial Support

The DWI program is 90% supported by fines, court costs, rehabilitation charges, etc., levied against the offender within five years from date of program or project implementation.

Evaluation Plan

The evaluation design will consist of pre-post comparison of all fatal and injury data as it relates to alcohol involved accidents. Time-series analysis will be used where statistics are available to complete this method of evaluation. Administrative evaluations will be completed to show arrest rates, conviction rates, arrests per hour of patrol, processing time for each arrest, average blood alcohol content levels during project period and number of court referrals. Records will be maintained for activities of project personnel and other personnel in the agency involved. More complete evaluation designs will be completed for each component in each project site based on data available and the extent of the project.

Revised 10-01-82

PSP TITLE: ALCOHOL INVOLVEMENT

PSP Number

STATE

Page

AL 83-02

Missouri

1 of 8

OBJECTIVE(S): To reduce alcohol-related accidents. Master Plan will contain quantified time frames and measurable objectives.

- TIME FRAMES -

Subgrantee	Descriptive Project Titles	Input	Output	Current FY	FY +1	FY +2	FY +3
St.L.Co. St.L.CO.PD ST.L.CO.PD St.L.CO.CC D.J.S. A.C.A.D.A	1. Comprehensive Alcohol Programs 1.1 St. Louis County 1.1a St. Louis Co. P.D. 1.1b Prosecuting Attorney's Office 1.1c Associate Circuit Courts 1.1d Dept. of Justice Services 1.1e Advisory Council for Alcohol & Drug Abuse	To be de- fined in each pro- ject and master plan.	To be defined in each project and master plan.				

Program Area Code	Current Year Major Cost Items By Project	402 to Local	402 Federal	Local Share	State Share	Total
308 308 308 308 308 308 308	1. Personnel, Training, Equipment, Supplies 1.1 Personnel, Training, Equipment, Supplies (168.5) 1.1a Personnel (70), Training (10), Equipment (10), Supplies (4.5) 1.1b Personnel, (20), Training (2), Equipment (2.5) 1.1c Personnel (20), Training (4), Equipment (5) 1.1d Personnel (10) 1.1e Supplies & Printing (7.5), Training (3)	663.5	704.0	0	0	704.0
	Totals					

Revised 10-01-82

PSP TITLE: ALCOHOL INVOLVEMENT

PSP Number

STATE

Page

AL 83-02

Missouri

2 of 8

OBJECTIVE(S): Same as shown on on Page 1 of this PSP

- TIME FRAMES -

ubgrantee	Descriptive Project Titles	Input	Output	Current FY	FY +1	FY +2	FY +3
SPLFD/G.C.	1.2 Springfield/Green County	to be de- fined in each pro- ject & master plan.	to be defined in each project and master plan.	-----	-----	-----	-----
SPLFD.P.D.	1.2a Springfield P.D.						
SPLFD.P.A.	1.2b Prosecuting Attorney's office						
C.C.-A.D.	1.2c Circuit Courts-Assoc. Divisions						
C.C.-M.D.	1.2d Circuit Courts-Municipal Division						
A.C.A.D.A	1.2e Regional Council for Alcohol & Drug Abuse						
	1.2f Sheriff's Department						
Program Area Code	Current Year Major Cost Items By Project	402 to Local	402 Federal	Local Share	State Share	Total	
308	1.2 Personnel, Training, Equipment, Supplies (132)						
308	1.2a Personnel (45), Training (10), Equipment (10)						
308	1.2b Personnel (20), Training (2), Equipment (2.5)						
308	1.2c Training (2.5)						
308	1.2d Personnel (15), Training (5), Equipment (3)						
308	1.2e Personnel (8.5), Equipment (1.5), Supplies (2)						
308	1.2f Equipment (5)						
Totals							

PSP TITLE: ALCOHOL INVOLVEMENT

PSP Number

STATE

Page

AL 83-02

Missouri

3 of 8

OBJECTIVE(S): Same as shown on Page 1 of this PSP

- TIME FRAMES -

Subgrantee	Descriptive Project Titles	Input	Output	Current FY	FY +1	FY +2	FY +3
W.St.L.Co. Ball.P.D. Ells.P.D. Man.P.D. P.A. Muni. C.C.-M.D.	1.3 West St. Louis County 1.3a Ballwin P.D. 1.3b Ellisville P.D. 1.3c Manchester P.D. 1.3d Prosecuting Attorneys - Municipal 1.3e Circuit Court - Municipal Div.	To be de- fined in each pro- ject and master plan.	To be defined in each project and master plan.				
Program Area Code	Current Year Major Cost Items By Project	402 to Local	402 Federal	Local Share	State Share	Total	
308	1.3 Personnel, Training, Equipment, Supplies (58.5)						
308	1.3a Personnel (15), Training (2)						
308	1.3b Personnel (15), Training (2)						
308	1.3c Personnel (15), Training (2)						
308	1.3d Personnel (2.5), Training (1.0)						
308	1.3e Personnel (2.5), Training (1.5)						
Totals							

PSP TITLE: ALCOHOL INVOLVEMENT

PSP Number

STATE

Page

AL 83-02

Missouri

4 of 8

OBJECTIVE(S): Same as shown on Page 1 of this PSP.

- TIME FRAMES -

Subgrantee	Descriptive Project Titles	Input	Output	Current FY	FY +1	FY +2	FY +3
N.St.L.Co. Berk.P.D. Brid.P.D. Flor.P.D. Haz. P.D. C.C.-M.D. P.A.-Muni. D.J.S.	1.4 North St. Louis County 1.4a Berkeley P.D. 1.4b Bridgeton P.D. 1.4c Florissant P.D. 1.4d Hazelwood P.D. 1.4e Circuit Court-Municipal Division 1.4f Prosecuting Attorney's Offices 1.4g Department of Justice Services	To be de- fined in each pro- ject and master plan.	To be defined in each project and master plan.				

Program Area Code	Current Year Major Cost Items By Project	402 to Local	402 Federal	Local Share	State Share	Total
308	1.4 Personnel, Training, Equipment Supplies (129.5)					
308	1.4a Personnel (25), Training (1), Equipment (1)					
308	1.4b Personnel (25), Training (1), Equipment					
308	1.4c Personnel (25), Training (1), Equipment (1.5)					
308	1.4d Personnel (25), Training (1), Equipment (1)					
308	1.4e Personnel (2.5), Training (1), Equipment (1.9)					
308	1.4f Personnel (2.5), Equipment (1), Trng.(1)					
308	1.4g Personnel (8.5) Totals					

PSP TITLE: ALCOHOL INVOLVEMENT

PSP Number

STATE

Page

AL 83-02

Missouri

5 of 8

OBJECTIVE(S): Same as shown on Page 1 of this PSP.

- TIME FRAMES -

Subgrantee	Descriptive Project Titles	Input	Output	Current FY	FY +1	FY +2	FY +3
St.Ch.Co. St.Ch.P.D. St.Ch.Sh. L.St.L.P.D. St. Ptrs. P.D. O'FallP.D. St.Ch.Co. P.S.	1.5 St. Charles County 1.5a St. Charles P.D. 1.5b St. Charles Sheriff's Department 1.5c Lake St. Louis P.D. 1.5d St. Peters P.D. 1.5e O'Fallon P.D. 1.5f St. Charles Co. Prosecuting Attorney	To be de- fined in each pro- ject and master plan.	To be defined in each project and master plan.	—	---	---	---

Program Area Code	Current Year Major Cost Items By Project	402 to Local	402 Federal	Local Share	State Share	Total
308	1.5 Personnel, Training, Equipment, Supplies (144.5)					
308	1.5a Personnel (30), Training (1), Equipment (5)					
308	1.5b Personnel (30), Training (1), Equipment (5)					
308	1.5c Personnel (10), Training (1), Equipment (1)					
308	1.5d Personnel (10), Training (1), Equipment (1)					
308	1.5e Personnel (10), Training (1), Equipment (1)					
308	1.5f Personnel (20), Training (1.5), Equipment (1.5)					
Totals						

PSP TITLE: ALCOHOL INVOLVEMENT

PSP Number

STATE

Page

AL 83-02

Missouri

6 of 8

OBJECTIVE(S): Same as shown on Page 1 of this PSP.

- TIME FRAMES -

Subgrantee	Descriptive Project Titles	Input	Output	Current FY	FY +1	FY +2	FY +3
P.A.-Muni. C.C.-M.D. C.C.-A.D.	1.5g Prosecuting Attorneys - Municipal 1.5h Circuit Court - Municipal Division 1.5i Circuit Court - Associate Division	To be de- fined in each pro- ject and master plan.	To be defined in each project and master plan.				
Program Area Code	Current Year Major Cost Items By Project	402 to Local	402 Federal	Local Share	State Share	Total	
308	1.5g Personnel (2.5), Training (1), Equipment (.5)						
308	1.5h Personnel (2.5), Training (1), Equipment (1.0)						
308	1.5i Personnel (2.5), Training (1), Equipment (1.5)						
Totals							

PSP TITLE: ALCOHOL INVOLVEMENT

PSP Number

STATE

Page

AL 83-02

Missouri

7 of 8

OBJECTIVE(S): Same as shown on Page 1 of this PSP.

- TIME FRAMES -

Subgrantee	Descriptive Project Titles	Input	Output	Current FY	FY +1	FY +2	FY +3
Bu.CO./ St.J. Bu.Co.Sher. St.J.P.D. P.A. C.Crt. A.C.A.D.A.	1.6 Buchanan County/St. Joseph 1.6a Buchanan County Sheriff 1.6b St. Joseph P.D. 1.6c Prosecuting Attorneys 1.6d Circuit Courts-Municipal & Associate 1.6e Advisory Council on Alcohol & Drug Abuse	To be de- fined in each pro- ject and master plan.	To be defined in each project and master plan.		---	---	
Program Area Code	Current Year Major Cost Items By Project	402 to Local	402 Federal	Local Share	State Share	Total	
308	1.6 Personnel, Training, Equipment, Supplies (71)						
308	1.6a Personnel (10), Training (1.5), Equipment (1)						
308	1.6b Personnel (30), Training (2), Equipment (5)						
308	1.6c Personnel (2.5), Training (1), Equipment (1)						
308	1.6d Personnel (4.5), Training (2), Equipment (2)						
308	1.6e Training (7.5), Supplies and Printing (2)						
	Totals						

PSP TITLE: ALCOHOL INVOLVEMENT

PSP Number

STATE

Page

AL 83-02

Missouri

8 of 8

OBJECTIVE(S): Same as shown on Page 1 of this PSP.

- TIME FRAMES -

Subgrantee	Descriptive Project Titles	Input	Output	Current FY	FY +1	FY +2	FY +3
St.L.Ci. R/E AT/A Sem/A Alc.Pub.	2. St. Louis City 3. Rehabilitation/Education 4. Judges' Training/Alcohol and Alcoholism 5. Seminars on Alcohol and Highway Safety 6. Alcohol Publications	10 Instru- ments Conf, . research 4 Courses 2 Seminars 5 publica- tions	Decrease in Proces- sing Time. Development of Rehab. Program Guidelines Train 80 Judges Train 120 Judges. 600 Distributed.				

Program Area Code	Current Year Major Cost Items By Project	402 to Local	402 Federal	Local Share	State Share	Total
308	2. Equipment (40), Supplies (2), Training (5)	47.0	47.0	0	0	47.0
308	3. Conference and Research	0	9.0	0	0	9.0
308	4. Motel, Meals, Travel (25)	0	25.0	0	0	25.0
308	5. Seminars (35), Travel (10)	0	45.0	0	0	45.0
308	6. Contractural Services (10), Printing (5)	0	15.0	0	0	15.0
Totals		710.5	845.0	0	0	845.0

PROBLEM SOLUTION PLAN AL 83-02
PROJECT NARRATIVES
ALCOHOL INVOLVEMENT

1. Comprehensive Alcohol Programs

Based on what has been learned and experienced in the Alcohol Safety Action Projects, the development of the comprehensive alcohol programs will include the following four components: Prevention, Law Enforcement, Adjudication and Rehabilitation. Overall program will be designed around the following:

- a. Adopting a locally supervised and coordinated system to handle the drunk driver--involving the police, prosecutors, courts, probation, treatment, and public information sectors of government.
- b. Designing these systems to be financially self-supporting by placing the burden on the convicted drunk driver through fines and treatment tuition fees.
- c. Increasing police emphasis on alcohol law enforcement, following drunk driver apprehension techniques, and utilizing the latest support equipment such as roadside breath-alcohol testers (when allowed by law).
- d. Adopting a more uniform and consistent approach to driver license sanctions to maximize the application of license suspension and revocations for all convicted offenders.
- e. Streamlining court processing procedures to handle increased caseloads while improving the quality of individual case adjudication.
- f. Adopting a broader approach to court sanctions by utilizing a number of disposition sanctions for the driving offense including referral to treatment of underlying alcohol problems.
- g. Creating a general deterrence climate within the community by tying an effective public education program to the increased enforcement program.

The purpose of this program is to develop and implement effective comprehensive alcohol traffic safety programs in:

- 1.1 St. Louis County
- 1.2 Springfield
- 1.3 West St. Louis County
- 1.4 North St. Louis County
- 1.5 St. Charles County
- 1.6 Buchanan County/St. Joseph

An assessment of the current status of the problem area will be completed utilizing Region VII's "DWI Program Assessment" form, deficiencies identified by comparison with "Successful Standards" and programs developed to correct or improve the identified deficiencies by allocation of 402 funds and local resources. A master plan will be developed and submitted to Region VII for review prior to program implementation. This does not include contracts for the purposes of planning comprehensive alcohol programs.

1.1 St. Louis County

Past enforcement programs for alcohol involvement have indicated that arrests for DWI were higher than the pre-project period, but that conviction rates were relatively low. Assignment of resources to alcohol enforcement was made in St. Louis County after termination of the last project funded in this site, but as with St. Louis City, better training and provisions for some overtime will increase arrest rates in this area. In support of this program, sessions will be held to make the judiciary aware of the magnitude of alcohol-related traffic crashes, the drinking-driver, alcohol abuse and alternative sentencing available.

An evaluation of the St. Louis County DWI Program was completed in December 1981, report number 104212. A master plan will be developed based on the identified deficiencies and recommendations contained in this report and will be submitted to Region VII for their review.

1.2 Springfield/Greene County

The main thrust of this program will be in the City of Springfield. Identification of training needs will be made in the initial planning phase of the project. Analysis will also be made to determine specific alcohol-related problem areas, to include stretches of roadway and time of day, day of week. Overtime salaries, equipment and training will be provided for in this project. In the 1982 problem analysis, Greene County was ranked the sixth highest among all counties in frequency of alcohol-related traffic crashes.

1.3 West St. Louis County

Three municipalities will be involved in this DWI program. Funds allocated to this project will provide for training, overtime salaries and possibly limited media support. Again, all systems dealing with the drinking-driver will be examined to determine any deficiencies. Any of the weak areas in the system that may be identified will be addressed. The municipalities involved are adjacent to each other and are situated on a main thoroughfare as West St. Louis County. The Cities of Ballwin, Manchester and Ellisville are the targeted areas for this program.

1.4 North St. Louis County

The St. Louis County Police Department has been involved in a Highway Safety funded project in the past. The project was countywide and was based on alcohol-related accidents in specific areas of the county. A portion of this project will be continued and revised. Enforcement will be concentrated in the unincorporated area surrounding the northwest corner of the county. These assignments will be based on an analysis of nighttime crashes, by time of day and day of week. The interstate highways intersecting the operational area will be worked by the Missouri State Highway Patrol, in cooperation with other agencies involved in the project. Municipal agencies involved will include the Hazelwood Police Department, Florissant Police Department, Berkeley Police Department and the Bridgeton Police Department.

Detection and apprehension procedures will be taught to those agencies involved. A model booking procedure will be developed to decrease overall booking time where possible. Where needed, training courses for judges and prosecutors will be designed and carried out to inform the judiciary of the program and to acquaint them with breath-testing procedures, new breath-testing instruments, and alternative sentencing.

Limited public information and education campaigns will be launched to support this program and to enhance the effect of increased enforcement.

1.5 St. Charles County

The St. Charles Police Department, St. Charles County Sheriff's Department, O'Fallon Police Department, St. Peters Police Department and Lake St. Louis Police Department will join in a cooperative effort with the Highway Patrol to implement a DWI enforcement project similar to the one outlined for the project in St. Louis County Region. The St. Charles County Prosecutor's Office will develop a tracking system for alcohol-related cases and a guide for prosecutors for handling DWI cases.

1.6 Buchanan County/St. Joseph

This project will include the St. Joseph Police Department, Buchanan County Sheriff's Department and the Highway Patrol, as participating agencies. An ongoing ARTOP (Alcohol-Related Traffic Offender Program) will also be involved, as well as the courts for the region.

2. St. Louis City

The St. Louis City Police Department is continuing the alcohol enforcement effort with resources they presently have available. Arrests made by the department are comparable to previous grant period arrests, but DWI processing time has not been significantly reduced due to the central processing procedures utilized by this agency.

This project will provide breath-testing capabilities in geographically strategic districts within the City. Placement of instruments will be based on DWI activity and location of district headquarters in relation to this activity.

The number of instruments to be placed will range from a minimum of two (2) to a maximum of ten (10). All placements beyond the first two instruments will be based upon documentation of need and supporting data provided by the St. Louis Police Department.

Since this site was previously funded through MDHS as an alcohol enforcement program, the components for a comprehensive program are already established. To further enhance the effectiveness, training will be provided to officers not presently schooled in DWI detection. Additional training will be provided to certify a greater number of officers in operating and maintaining any new breath-testing equipment.

Referral programs for DWI offenders are currently in operation in St. Louis City. To provide for maximum utilization of these programs, city judges and

prosecuting attorneys will participate in seminars addressing the overall DWI problem and alternative sentencing presently available. Consideration will also be given to implementing a self-supporting weekend intervention program for problem drinkers.

The placement of these breath-testing instruments will provide for overall enhancement of the program currently operated at city expense.

3. Rehabilitation/Education

Funds will be provided to gather individuals in the area of alcohol rehabilitation and education to determine the existing programs available. Planning sessions will be developed to examine areas not presently covered and to design programs where needed. It is anticipated that referral programs now in operation will be brought together to discuss effectiveness, efficiency, standardization and certification or approval procedures that could be instituted by the state.

Funds may also be provided on a contractual basis to graduate student interns for research in the state of the art of alcohol/DWI referral or rehabilitation programs. Printing costs may be incurred for publication of existing referral programs to be distributed to prosecutors and/or judges. Major cost items will be conference, research and printing.

4. Judges' Training/Alcohol and Alcoholism

Eighty judges will attend a one-week session involving interaction with alcoholics who have entered treatment centers. A portion of the week will be devoted to conference sessions designed to increase the working knowledge of judges who deal with DWI cases. The support of the Missouri Supreme Court is essential to the success of this program. Their support of this effort has been received and coordination will be provided by them in cooperation with the Missouri Bar Association. Major cost items will be meals and travel.

5. Seminars on Alcohol and Highway Safety

Seminars will be conducted regionally which will address alcoholism, alternatives in case adjudication and alcohol consumption as it relates to driving and public safety and a presentation and informational exchange on the new breath-test instrument. Attendees will include judges and prosecutors (cost to include seminar).

6. Alcohol Publications

To provide publications relating to alcohol to judges, citizen groups, and other interested parties. Providing such publications will increase these groups' awareness of Missouri's alcohol-related problem and increase their feeling of efficacy.

PROBLEM SOLUTION PLAN EM 83-03
SEVERITY REDUCTION

Problem Statement

A state's traffic accident severity rate can be adversely impacted due to the timeliness, the quality and the type of medical care provided to victims of traffic crashes. Unnecessary deaths and aggravated personal injury can occur due to inadequacies in a state's emergency medical response support system.

An emergency medical response system is made up of a number of functional components, each dependent upon the other. If any of these functional areas are deficient, it can impede the effectiveness of the total system. These areas are:

1. Communications (Equipment)
 - A. Notification (Access)
 - B. Direction and Coordination (Dispatch and Medical Control)
2. On-the-scene Medical Care (Properly Trained First Responders and Ambulance Personnel)
3. Transportation of Victims (Ambulance Vehicles)
4. Medical Facility Support Capabilities (Trauma Centers)

A number of problems were identified in the state's emergency medical response system. The first problem deals with the transportation function.

The state's present ambulance coverage is relatively good from a geographical perspective. In approximately 98% of the state, there is an ambulance dispatch location which can provide a less than 30-minute response time to the scene of an accident. There are 266 agencies currently providing ambulance services in the State of Missouri with 710 licensed vehicles in use. Since 1970, state and federal funds have assisted in the purchase of 445 ambulance vehicles for political subdivisions.

Even though the present ambulance coverage is close to 100% from a geographical standpoint, there are deficiencies related to in-depth coverage. A number of dispatch locations only have one ambulance available. Backup support for this type of agency is needed. In other instances, emergency ambulance dispatching agencies are saturated with calls for service. Demand for services has outstripped supply. This problem is not extremely serious if there are other dispatching services in the community which can assume the additional work load. It becomes a serious situation if all the community's ambulance services are saturated or no other service is near enough to provide adequate backup protection.

Maintaining the needed technical expertise of medical attendants who respond to the scene of emergencies has been identified as a significant problem. A law was enacted in 1974 requiring all ambulance attendants to be licensed by the State of Missouri. As a part of this certification process, attendants must have a certain type and amount of training. In addition, these attendants are required to be certified a minimum of every three years and take additional refresher courses.

The training requirements established under the provisions of this law have placed a heavy and costly burden on the ambulance services in the state. This is especially true when considering the high turnover rate associated with this job classification. A study of the state's ambulance service agencies was performed in 1981 by the Division of Health (reference the Survey of Missouri Ambulance Services Study, 1981). It was discovered that the average annual turnover rate of ambulance attendants was 30%.

This high turnover rate is due to low pay and the fact that a large number of ambulance attendants are part-time employees or volunteers. The average salary of a full-time ambulance attendant in Missouri is approximately \$8,500.00. In a 1979 survey of 77 Missouri ambulance districts, it was found that of the ambulance attendants studied, 21% were full-time employees, 21% were part-time employees and 57% were volunteers. In a follow-up 1981 survey, 24% were full-time, 32% were part-time and 44% were volunteers.

As of May 31, 1981, there was a total of 10,624 licensed ambulance personnel in the State of Missouri. Of these:

1. 14% have EMT-P training (approximately 480 hours).
2. 72% have EMT-A training (approximately 81 hours).
3. 14% have Advanced First Aid training (approximately 54 hours).

Over the next five years, heavy emphasis will be placed on increasing the overall skill levels of ambulance attendants by providing accredited paramedic training. With this improvement in skill level, the survivability rate of traffic accident victims should dramatically increase. With paramedic training a medical first responder can administer a greater variety of lifesaving services to trauma victims.

Most of the paramedic trained medical first responders are located in the urban areas of the state. Rural areas in Missouri have had problems in securing paramedics and retaining them. The cost factor to an ambulance service or an individual to seek more advanced paramedic training is often prohibitive. The number of paramedic staffed ambulance services has increased from 78 in 1981 to 101 in 1982.

Public emergency notification and dispatch command/control communication systems are key elements in providing adequate medical response services to a community. The Bureau of Emergency Medical Services has, through field contacts, found some serious deficiencies related to this function. These problems include, but are not limited to:

1. Inadequate citizen emergency notification systems.
2. Little or no interagency first responder communication coordination.
3. Lack of adequate communication linkages between the medical field units and,
 - A. Dispatch locations
 - B. Medical treatment facilities.

4. Poor transmission/reception areas where communication linkages do exist between the medical field units and dispatch locations or medical treatment facilities.

Problem Solution

Based upon a law enacted in 1974, all ambulance attendants must be licensed in the State of Missouri. As a part of the certification process, most of the 86% of these currently licensed attendants have taken EMT training. In addition, when they are recertified every three years, they are obligated to take EMT refresher courses. To support this training effort, the Missouri Division of Health has developed formal initial and refresher EMT courses and established 108 training entities throughout the state. This plan will support the training of 1,000 personnel in the Division of Health's basic EMT course and 500 in its refresher course.

In addition, paramedic training will be provided, especially in rural areas of the state. A total of 200 personnel will receive EMT-P and 100 will receive EMT-P refresher training under the provisions of this plan. There are 25 EMT-P training entities in the state.

Provisions have also been made to provide coordination for this EMT training program. Personnel from the Missouri Division of Health will assist these 133 training entities in conducting their courses and certifying their graduates. In addition, these coordinators will provide consulting services to any ambulance service agency wanting to upgrade their call for service capabilities.

First responder training will be provided to 600 public safety personnel so that initial stabilization of the accident victim can begin before the ambulance personnel arrive.

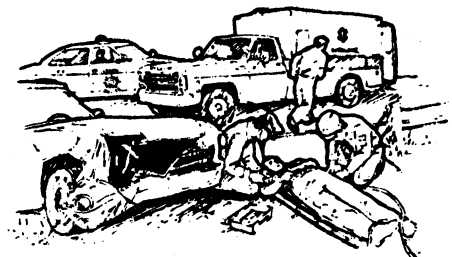
Goals

The goals of the activities outlined above are to further decrease the severity rate and number of deaths during the 1983 fiscal year by 2%.

The overall statewide severity rate from January 1977 through December 1979 was 129.06 deaths per 1,000 Class "A" injuries. The severity rate for calendar year 1981 was 125.7 and the number of deaths decreased by 11.4% from 1980.

Evaluation Plan

An administrative evaluation will be conducted based on information provided by the Bureau of Emergency Medical Services and Accident Statistics on a statewide basis, as well as the number of students trained in each course and the pass/fail ratio.



PSP TITLE: SEVERITY REDUCTION

PSP Number

STATE

Page

EM 83-03

Missouri

1 of 1

OBJECTIVE(S): To reduce the fatality rate per 1,000 class "A" injuries from 129.06 (1977 - 1979) to 120.0 fatalities per 1,000 class "A" injuries in FY'83.

- TIME FRAMES -

Subgrantee	Descriptive Project Titles	Input	Output	Current FY	FY +1	FY +2	FY +3
DOH/EMS	1. Training Programs						
DOH/EMS	1.1 EMT-Ambulance Training (81-Hour Course)	35 classes	1,000 students				
DOH/EMS	1.2 EMT-A Refresher Training (20-Hour Course)	20 classes	500 students				
DOH/EMS	1.3 EMT-P Paramedic Training (480-Hour Course)	15 classes	200 students				
DOH/EMS	1.4 EMT-P Refresher Training (60-Hour Course)	10 classes	100 students				
DOH/EMS	1.5 First Responders Training (40-Hour Course)	30 classes	600 students				
DOH/EMS	2. EMT Training Coordination	4FTE	Statewide Coordination				

Program Area Code	Current Year Major Cost Items By Project	402 to Local	402 Federal	Local Share	State Share	Total
311	1. Training Programs	0	191.0		0	191.0
311	1.1 Training Center Costs (100.0)			50.0		
311	1.2 Training Center Costs (12.5)			12.5		
311	1.3 Training Center Costs (50.0)			20.0		
311	1.4 Training Center Costs (7.5)			4.0		
311	1.5 Training Center Costs (21.0)			4.3		
311	2. Salaries, Fringe Benefits, Travel	0	94.4	0	0	94.4
Totals		0	285.4	90.8	0	376.2

PROBLEM SOLUTION PLAN EM 83-03
PROJECT NARRATIVES
SEVERITY REDUCTION

1. Training Programs

Training programs for emergency personnel will be provided at regional training centers and EMS approved locations throughout the state. Training costs for emergency personnel associated with ambulances will be divided on a basis of 25% local costs and 75% federal costs.

1.1 Emergency Medical Technician - Ambulance Training (81-Hour Course)

This project provides for training first responders to pass minimum criteria for licensing by the state as Emergency Medical Technicians (EMT's). The primary purpose of this training and certification process is to ensure that quality care is provided on the scene in traffic crashes.

Approximately 2,000 students will receive training in the 81-hour EMT course, 1,000 of these students will receive 402 funding assistance with up to 42% of the costs being provided with local funds. These EMT's are needed to fill positions in expanded and improved ambulance operations and to replace EMT's as a result of the attrition rate.

The training funded must be performed under the direction of the Bureau of Emergency Medical Services at a regional EMS training entity. There are 108 EMT training entities and approximately 30% of them are under contract to the Bureau of EMS.

Contracts which provide training under this task have been reviewed and approved by the Missouri Division of Highway Safety.

An administrative evaluation will be performed by the Missouri Division of Highway Safety based upon the following:

1. Total number of students
2. Total number of students supported with 402 funds
3. Pass/fail ratio

1.2 EMT-A Refresher Training (20-Hour Course)

Refresher training is one of several options available to be recertified as an EMT every three years. It is projected that 500 EMT's will attend this course during Fiscal Year 1983, with local funds being used to pay up to 66% of the total amount required. The number of students is low compared to total EMT's employed because of the high attrition rate, which usually occurs within the first three years and because many students choose to repeat the entire EMT-A 81 hour course.

1.3 Emergency Medical Technician - Paramedic Training (480-Hour Course)

Approximately 200 students will attend this course in FY 83, with local funds being used to pay up to 58% of the total amount required. The course will provide advanced life support training to administer on-site critical

care capability and initiate drug treatment in trauma. Applicants must be a certified EMT with at least one year of continuous service. EMT-P training will be conducted at an advanced training entity, and all training will be monitored by paramedic training coordinators from the Bureau of Emergency Medical Services. Selection criteria has been developed and jointly approved by NHTSA and the Missouri Division of Highway Safety.

This course provides a higher level of professionalism to the trainee and should favorably impact the attrition rate. The EMT-P attrition rate is much lower than the EMT-A attrition rate.

The Bureau of Emergency Medical Services will complete an administrative evaluation by studying the outcomes of class A injured victims treated by EMT-P's compared to victims treated by EMT-A's but limited to those transported to a designated trauma center. This will be completed on an annual basis without additional 402 funding.

1.4 EMT-P Refresher Training (60-Hour Course)

It is projected that 100 EMT-P's will attend this course during fiscal year 1983, with local funds being used to pay up to 66% of the total amount required. Refresher training is required, as a minimum, every three years to be recertified as an EMT-P.

1.5 First Responder Training (40-Hour Course)

Nearly 50% of head trauma deaths in Missouri are automobile accident related (1,161 deaths). Effective system response, according to the American College of Surgeons, can save 8 people per 100,000 population. (400 people/year in Missouri). First responders adequately trained can be an important component of a systematic response to trauma victims. Often, law enforcement agencies are the first on the scene of auto accidents. Thus, initial patient stabilization can begin long before ambulance, EMT's and MEMT (paramedics) arrive. That could be crucial to patient survival.

Volunteer first response units can be strategically placed at a fraction of the cost of developing a full blown ambulance service. Response time for medical assistance can thereby be greatly reduced in rural areas on a cost effective basis. The patient can be saved until the more highly trained EMT's and MEMT's (paramedics) arrive. It is projected that 600 public safety and law enforcement personnel will be trained in this course.

2. EMT Training Coordination

This encompasses coordinating the statewide EMT training program and providing consultant services associated with on-the-scene emergency medical care and transportation. The Division of Health has assumed greater funding responsibility for this task so that 402 funds are used for a smaller percentage (15.9%) of the total Bureau of EMS operations than the percentage (18.9%) of all emergency runs in Missouri that are highway-related.

Paramedic Instructor/Coordinators are responsible for administering state certification examinations to both EMT-A and EMT-P students. The coordinators have the responsibility of ensuring that NHTSA guidelines are followed for all programs administered by the Bureau of EMS. They also assist in setting up and conducting the EMT-A and EMT-P courses throughout the state. Finally, they provide expert advice and guidance to state and local officials relating to on-the-scene medical services and transportation.

PROBLEM SOLUTION PLAN SB 83-04
PUPIL TRANSPORTATION

Problem Statement

Although school bus traffic accidents do not make up a large amount of Missouri's traffic crash experience, it has been included as a statewide problem area for the following reasons.

First, school bus traffic accidents take on added importance when normalized by the total number of vehicle miles traveled by the buses. The vehicle injury rate for school buses from July 1976 through June 1979 was 330. This rate indicates that for every 100 million miles of travel, 330 persons associated with the vehicle were either killed or injured as a result of a traffic accident. Individuals associated with the vehicle would include drivers, passengers and persons struck by the vehicle. Persons killed or injured in a motor vehicle that was struck by a school bus was not factored in the computation. They were not included because the miles of travel associated with the other vehicle was not known and would have biased the resulting rate.

The significance of the school bus injury rate is highlighted when compared against Missouri's statewide injury rate from calendar year 1977 through 1979. Based on 100 million miles of travel in Missouri, only 189 people were killed or injured as a result of a traffic accident. The school bus vehicle rate is 70.8% higher than the state's rate.

The overinvolvement of youth is even more apparent when considering only persons killed in these traffic accidents. The average age of a person killed in a school bus accident in Missouri during this time period was 15.7 years. The average age of a person killed in a nonschool bus-related accident was 35.5 years.

Finally, the national government, through enactment of the 1966 Highway Safety Act, has designated school bus driver training for priority funding consideration. States are authorized to utilize specific amounts of federal grant funds for school bus driver training. Those dollars may not be expended for any other purpose.

For the above reasons, school bus accidents are being included as a statewide traffic problem area in the 1983 Highway Safety Plan. The following table describes Missouri's school bus traffic accident experience over the past seventeen (17) school years. This data was derived from the manual files maintained by the Pupil Transportation Section of the Department of Elementary and Secondary Education. It is the most complete set of data on school bus accident activity compiled within the state.

In addition to the accident experience, one of the major problems among school bus operations statewide is the attrition rate among drivers. Due to the part-time nature of employment, many drivers are students who either find other employment or for some other reason do not return to drive school buses the next year. There is a continuing need to train new drivers each year.

Problem Solution

The Department of Elementary and Secondary Education conducted a series of in-service school bus driver workshops from 1968 through 1980. During this period, approximately 40,000 drivers were in attendance. Even though many drivers have been trained over this twelve-year period, slightly over 50% of the drivers employed did not attend. Also, there is approximately a 35% attrition rate. Some school districts conducted a driver training program, but the vast majority of drivers received only the training the Department of Elementary and Secondary Education offered in its workshops and this was limited to a classroom situation.

At the present time, there are no other programs in operation designed to train individuals within local school districts to develop local school bus driver training programs other than the Instructor Certification Program instituted by the Department of Elementary and Secondary Education as the 1980 School Bus Driver Training Project.

In analyzing the accident statistics involving school buses, it is apparent that school buses were involved in accidents in which injuries or fatalities occurred. During the school years 1978-79, 1979-80 and 1980-81, there was an average of 125 accidents per year in which disabling injuries (student missed more than one day of school) occurred. Also, during the same period, there were two students struck and killed by their school bus.

A series of five (5) recertification workshops (lasting approximately five hours) will be conducted in Jefferson City to evaluate and upgrade the certified instructors and the programs implemented at the local school district level, and evaluate and upgrade the certification program material and procedures used in general. The main purpose of these workshops will be to teach the instructors to use the slide-tape training programs developed as part of the 1982 project.

It is hoped that at least 60% (or 300) of the instructors certified in the 1980, 1981 and 1982 School Bus Driver Training Projects, and still employed in the same capacity, will attend a recertification workshop. An improvement in both local district school bus driver training programs and the state certification program should be observed as a result.

Goals

The goals of this program activity are to provide recertification training to 300 certified instructors.

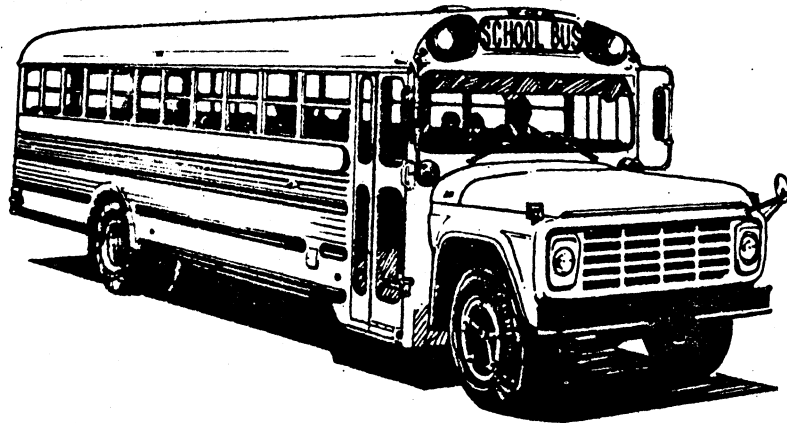
Evaluation Plan

The recertification workshops will be evaluated by each participant using an evaluation instrument developed by the Department of Elementary and Secondary Education. A written evaluation of their school bus driver training program will be made by each participating district. A written evaluation will be made for each program personally monitored by the Missouri Department of Elementary and Secondary Education.



An administrative evaluation will be provided by the Department of Elementary and Secondary Education on an annual basis. The report will provide, as a minimum, the following information.

1. The number of certified instructors that were recertified.
2. The number of school bus accidents for the year, compared to the previous three-year period.
3. The number of miles traveled by buses.
4. The number of miles traveled per accident during the school year.



PSP TITLE: PUPIL TRANSPORTATION

PSP Number

STATE

Page

SB 83-04

Missouri

1 of 1

OBJECTIVE(S): Provide instructor recertification training to 300 certified instructors.

- TIME FRAMES -

Subgrantee	Descriptive Project Titles	Input	Output	Current FY	FY +1	FY +2	FY +3
DESE	1. Instructors Recertification Workshops	5 workshops	300 Train 60% of certified instructors				
DESE	2. State Match						

Program Area Code	Current Year Major Cost Items By Project	402 to Local	402 Federal	Local Share	State Share	Total
317T	1. Training Center Costs/Recertification	0	57.9	0	0	57.9
317T	2. State Match	0	0	0	17.4	17.4
Totals		0	57.9	0	17.4	75.3

PROBLEM SOLUTION PLAN SB 83-04
PROJECT NARRATIVES
PUPIL TRANSPORTATION

1. Instructors Recertification Workshops

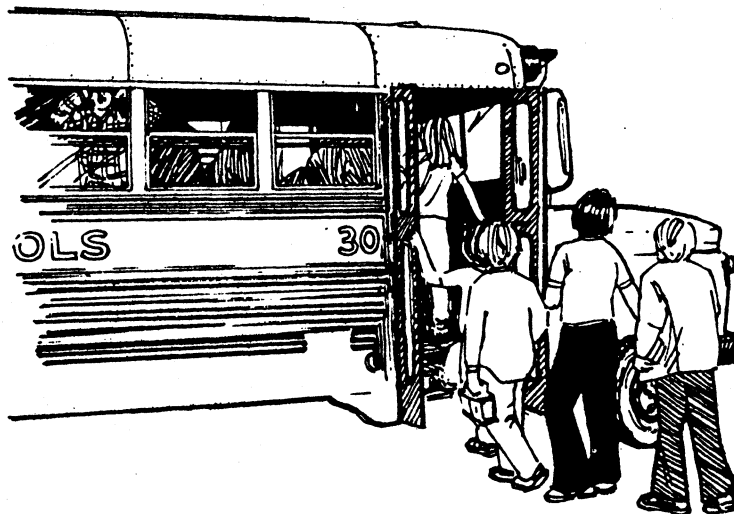
Workshops will be conducted to evaluate and upgrade certified instructors, the programs implemented at the local school district level, and the certification program material and procedures used in general. The main purpose of the workshops will be to teach the instructors to use the slide-tape training programs developed as part of the 1982 project.

2. State Match

Narrative

Costs shown in this task are monies expended by the state and/or local school districts for school bus driver training activities. The coordination of the pupil transportation program is conducted by the Department of Elementary and Secondary Education. The state and/or local funds designated in this task are covered by the following areas and activities.

- * That portion of the salaries of the State Director of Pupil Transportation and the secretary are to be used on a prorated basis for administering the School Bus Driver Training Program. (Approximately 50% of their time is spent dealing with the education of local pupil transportation employees.)
- * Amount paid by school districts to school bus drivers who attend the driver training workshops sponsored by the Department of Elementary and Secondary Education.
- * Amount spent by local school districts to train school bus drivers locally.



PROBLEM SOLUTION PLAN DE 83-05
OCCUPANT RESTRAINT

Problem Statement

An investigation was made of all drivers involved in 1977-1979 crashes in the STARS system. All drivers of passenger cars and trucks were included in the analysis. Drivers of buses, motorcycles and farm machinery were excluded since these vehicles normally do not contain seat belts. The following facts were derived from this study:

- * 11.7% of the drivers had been wearing seat belts at the time of the crash.
- * Of those drivers killed in the accident, only 3.8% had been wearing seat belts.
- * Of those drivers receiving a disabling injury, only 6.5% had been wearing seat belts.

One of the primary benefits of using a seat belt is that it keeps the individual in the vehicle during the collision. Once the person is thrown from the protected confines of the vehicle, they are susceptible to additional forces which can cause injury and/or death.

An analysis was conducted on all Missouri fatal and personal injury crashes occurring from 1977 through 1979. Again, the study was limited to passenger cars and trucks, but was expanded to include injured passengers as well as drivers.

- * Of those drivers ejected from the vehicle, 15.1% were killed and 39.8% received a disabling injury.
- * Of those persons partially ejected, 9.1% were killed and 22.1% received a disabling injury.
- * Of those persons not ejected, only 0.8% were killed and 7.9% had received a disabling injury.
- * The average age of an individual not wearing seat belts in a crash was 31.3 years, while the average age of a person wearing seat belts was 36.2 years. This is a difference of 4.9 years. This is a strong indication that younger people are wearing seat belts less when compared to older people.
- * There were also significant differences when comparing seat belt usage of persons under the age of 16 years with those 16 years and over. Of those persons involved in the accident under the age of 16 years, 3.7% had been wearing their seat belts. Of those over the age of 16 years, 9.2% had been wearing their seat belts at the time of the collision.

Problem Solution

Tasks provided for in this Problem Solution Plan are designed to increase public awareness of the need for utilizing the restraint devices in automobiles. The initial thrust of this program was aimed at restraining infants and children through the use of specially designed and crash-tested seats. This PSP will provide for the reprinting of handout materials in order to inform the public on the importance of using restraint devices in automobiles, as well as salaries and related project support.

It is felt by behavior theorists and traffic authorities alike that children exposed to being restrained at an early age in a motor vehicle will continue the practice later when they become drivers. Therefore, the impact of this effort is not only immediate in nature, but also has long-range possibilities.

Goals

Implement public awareness and education programs to encourage voluntary use of restraints. It has been shown their use will reduce the probability of death by more than 90% and serious injury by 78%. Increase estimated usage of restraint devices in target areas by 5%, as measured by comparing the number of drivers and passengers killed while wearing or not wearing restraint devices.

Evaluation

Activities will be monitored on an administrative basis. The Division of Health and other participating agencies or organizations will provide the Division of Highway Safety adequate information to determine on an aggregate basis the number of seats assigned in a calendar year and the number of parents exposed to the program information. Due to the broad nature of media exposure, estimates may be accepted in lieu of actual numbers.



Revised 10-01-82

PSP TITLE: OCCUPANT RESTRAINT

PSP Number

STATE

Page

DE 83-05

Missouri

1 of 1

OBJECTIVE(S): Reduce the number of drivers and passengers killed in traffic crashes while not using restraint devices

- TIME FRAMES -

Subgrantee	Descriptive Project Titles	Input	Output	Current FY	FY +1	FY +2	FY +3
MDHS	1. Informational Films (Child Restraint)	12	Parental exposure/				
MDHS	2. Printed Promotional Materials (Child Rest.)	100,000	12 hospitals				
MDHS	3. Seat Loaner Programs (Child Restraint)	600 seats	Expose this number				
MDHS	4. Reprinting of Promotional Materials (Seat Belts)	20,000	of parents.				
MDHS	5. Informational Films (Seat Belts)	6	60 new programs				
MDHS	6. Develop Brochure Aimed at Industry Seat Belt Programs	200	Expose this number				
MDHS	7. Educational Materials for Schools (Seat Belts)	70	of motorist.				
MDHS	8. Public Service Announcements (Child Rest.)	30 TV	Loan of Films				
MDHS	9. Pilot Community Seat Belt Program-Warrensburg	200 Radio	Distribute brochures				
		Being developed	Provide to schools				
			Distribute & place				
			in media.				
			Being developed				

Program Area Code	Current Year Major Cost Items By Project	402 to Local	402 Federal	Local Share	State Share	Total
304	1. Purchase Films on Child Restraints	0	1.0	0	0	1.0
304	2. Brochure for New Parents and Consumer Information Pamphlet.	0	13.5	0	0	13.5
304	3. Purchase Infant Restraint Seats & provide Brochure on Establishing Program.	0	15.0	0	0	15.0
304	4. Reprinted Material on Seat Belt Usage to Motorists.	0	5.0	0	0	5.0
304	5. Film Purchase.	0	3.0	0	0	3.0
304	6. Development and Distribution.	0	5.0	0	0	5.0
304	7. Purchase and Distribution of Kits.	0	5.0	0	0	5.0
304	8. Provide Duplication Costs and Develop State Message for PSP.	0	7.0	0	0	7.0
304	9. Salaries, Publications & Related Project Support.	0	50.0	0	0	50.0
	Totals	0	104.5	0	0	104.5

PROBLEM SOLUTION PLAN DE 83-05
PROJECT NARRATIVES
OCCUPANT RESTRAINT

1. Informational Films (Child Restraints)

Funds provided in this task will purchase films relating to infant restraint seat usage. These films will be distributed to areas which will ensure the greatest degree of exposure to new parents or expecting parents.

Program involvement will include private civic organizations and state agencies. This method of implementation decreases associated costs and also increases visibility at the community level through active participation of community based civic groups.

2. Printed Promotional Material (Child Restraints)

A brochure describing infant restraint seat usage benefits will be combined with a consumer information pamphlet. Parents will be provided information on types of crash-tested and approved infant seats and approximate cost of these devices. Installation and recommended usage information will also be included.

Cooperative involvement will be initiated between state agencies, associations or civic organizations in the development and distribution of this material.

3. Seat Loaner Programs (Child Restraints)

Funds provided in this task are allocated to purchase infant restraint seats and to publish a brochure for interested groups, organizations or agencies on how to establish infant restraint seat loaner programs.

A total of ten infant seats will be provided to each organization which establishes a loaner program. Additional seats will be provided by that organization through funds resulting from outside contributions. The seats provided will serve as a seed-concept to initiate the program within that organization.

The informational brochure on how to establish a loaner program is based on a brochure developed by the Office of Highway Safety in Michigan. There will be no developmental costs associated with this activity.

4. Reprinted Promotional Material (Seat Belts)

Funds provided in this task are allocated to provide for the reprinting of promotional material related to seat belts. The thrust of this task will be to encourage voluntary use of seat belts by the motoring public.

5. Informational Films (Seat Belts)

This task provides funds for the purchase of films relating to the use of seat belts in automobiles. These films will be distributed to areas which will ensure the greatest degree of exposure to motorists and students enrolled in driver education course and industry who initiate educational programs within their organizations.

6. Brochure for Industrial Seat Belt Programs

A brochure will be developed to encourage private industry to implement seat belt campaigns within their organizations.

Task costs will be for the development and publication of the brochure.

7. Educational Materials for Schools (Seat Belts)

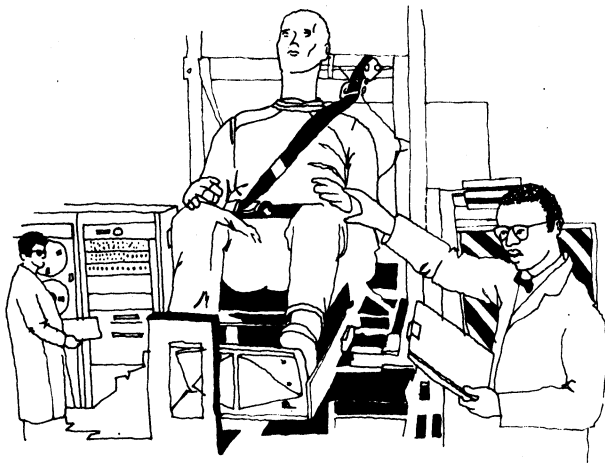
The intent of this task is to provide schools within the state with educational programs which instruct children in the advantages of seat belt use. Through the distribution of these educational programs, the use of seat belts should increase among children and parents.

8. Public Service Announcements (Child Restraints)

Costs identified in this task will provide for development of a state message directed to motorists, encouraging them to consider the safety of traveling in a motor vehicle and how the severity of accidents is reduced by the use of seat belts. Duplication costs of this spot will be provided for to allow sufficient quantities for distribution to a large number of television and radio stations in the state.

9. Pilot Community Seat Belt Program-Warrensburg

A pilot project will be conducted in Warrensburg to demonstrate increased seat belt usage. A planning meeting will be conducted in July to delineate specific task areas.



PROBLEM SOLUTION PLAN TR 83-06
TRAFFIC RECORDS

Problem Statement

Over the past few years significant deficiencies have been identified in Missouri's traffic records system. These deficiencies have been documented in a number of comprehensive studies conducted by both federal and state traffic authorities. Problems identified were:

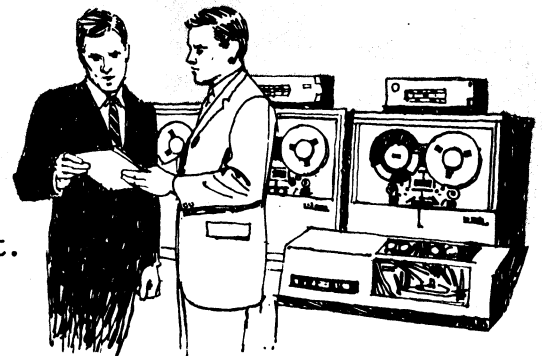
1. Nonavailability of information required to support traffic safety management and/or operational functions.
2. Limitations and heavy costs associated with data gathering.
3. Deficiencies associated with automated file maintenance functions as well as retrieval capabilities.

As a result of the problems identified in these studies and needs expressed by state/local traffic authorities, the Missouri traffic records committee was formed. This ad hoc committee was tasked with assisting operational agencies responsible for the state's traffic records system to:

1. Identify systems deficiencies.
2. Identify solutions to problems found.
3. Assist in obtaining funding support for implementation of corrective action.
4. Assist in implementation of solutions selected.

To date, the committee has concentrated its attention on addressing problems and needs associated with the traffic accident data component of the Missouri traffic records system. Once final system improvements for this component are designed and implemented, the committee will focus its attention on other components of the state's traffic records system. These would include:

1. Driver Component.
2. Vehicle Component.
3. Roadway/Environment Component.
4. EMS Component.
5. Traffic Law Enforcement Adjudication Component.
6. Safety Program Management Component.
7. Safety Data Analysis Component.



Data analysis has become an integral part of the management and planning process associated with Missouri traffic safety programs.

The Missouri Division of Highway Safety is the primary agency responsible for coordination of the state's traffic safety program. One of this agency's main functions is to perform statewide data analysis in order to identify those causal factors contributing to Missouri's traffic crashes or the severity of such accidents. Once these problem areas are identified, the Missouri Division of Highway Safety, working in concert with other state and local traffic authorities, designs and implements traffic safety programs to resolve the problems.

This agency also provides ongoing data analysis services to other state and local traffic authorities. By providing such services, traffic authorities can make better management and operational decisions in their individual work environment.

With the increased emphasis in the use of data analysis for traffic planning and management purposes, a number of limitations were identified. These include the following:

1. The technical expertise needed to interpret the results of statistical data was found to be limited in those traffic safety agencies utilizing the services. Additional technical support and training is required to ensure that planners and policy makers properly utilize the information and draw reasonable conclusions from it.
2. Statistical access to state and local computerized traffic files was limited for two primary reasons. First, a number of the traffic computerized files were located in various operational agencies. Requests for specific information had to be made to each of the agencies. Second, in most cases, these agencies did not have the type of statistical output sub-systems required for traffic data analysis. Significant improvements have been made in this area. The general approach taken has been to obtain copies of the automated traffic data bases from the operational agencies and place them in a host computer facility having the statistical software capabilities needed to perform the analysis.
3. In some instances, there were gaps in the data analysis capabilities because information was not being captured at state level. Either the current reporting systems neglected to capture the data or there was no information system in existence which could capture it. In such instances, action was taken to modify existing information systems or design new ones to obtain the information.

For example, one of the major approaches in coping with Missouri's traffic safety problem has been through increased enforcement of traffic laws and providing other types of police traffic-related services. It was found that no information was available that identified on a statewide basis police resource capabilities or their traffic service activities. This type of information was considered essential in order to develop a comprehensive police traffic services program. For that reason, action was taken to design new information systems which would capture that type of data.

4. Certain key traffic information systems in Missouri were not automated which severely limited their utility from a problem analysis and program management perspective. This was mainly due to the large amount of time and manpower it takes to manually manipulate data into a usable format.

5. It was found that the Statewide Traffic Accident Reporting System (STARS) computer files had a number of limitations which put constraints on the statewide problem analysis work effort. These constraints primarily dealt with the type of data being captured, the data code classification categories used and the filed reporting procedures currently being followed by Missouri police officers.

Problem Solution

The Statewide Traffic Accident Reporting System (STARS) provides vital traffic accident data and statistics to state and local users. For that reason, resources will be used to maintain its input processing and operational output sub-systems.

The Missouri State Highway Patrol will provide the Missouri Division of Highway Safety with a systems team as well as use of its computer facility. These resources will be used to support the statewide traffic data analysis work effort and development of new traffic-related information systems. At the direction of Missouri Division of Highway Safety, this systems team will also be utilized to provide technical assistance to the Missouri traffic records committee.

Interpretive traffic data analysis will also be provided by the Missouri Safety Center. In addition, the Center will design a course of instruction for law enforcement agencies to increase their personnel's ability to perform interpretive data analysis.

The Missouri Division of Highway Safety and the Missouri State Highway Patrol will be provided additional resources to support the recommendations made by the Missouri traffic records committee aimed at improving the state's traffic records system.

The Missouri State Highway Patrol, as well as other state agencies, will be provided resources to implement provisions of the state's new drinking driver law. This law mandates the development of a number of comprehensive information systems to keep track of those drivers convicted of a DWI offense or receiving a suspended imposition of sentence for such an offense.

Goals

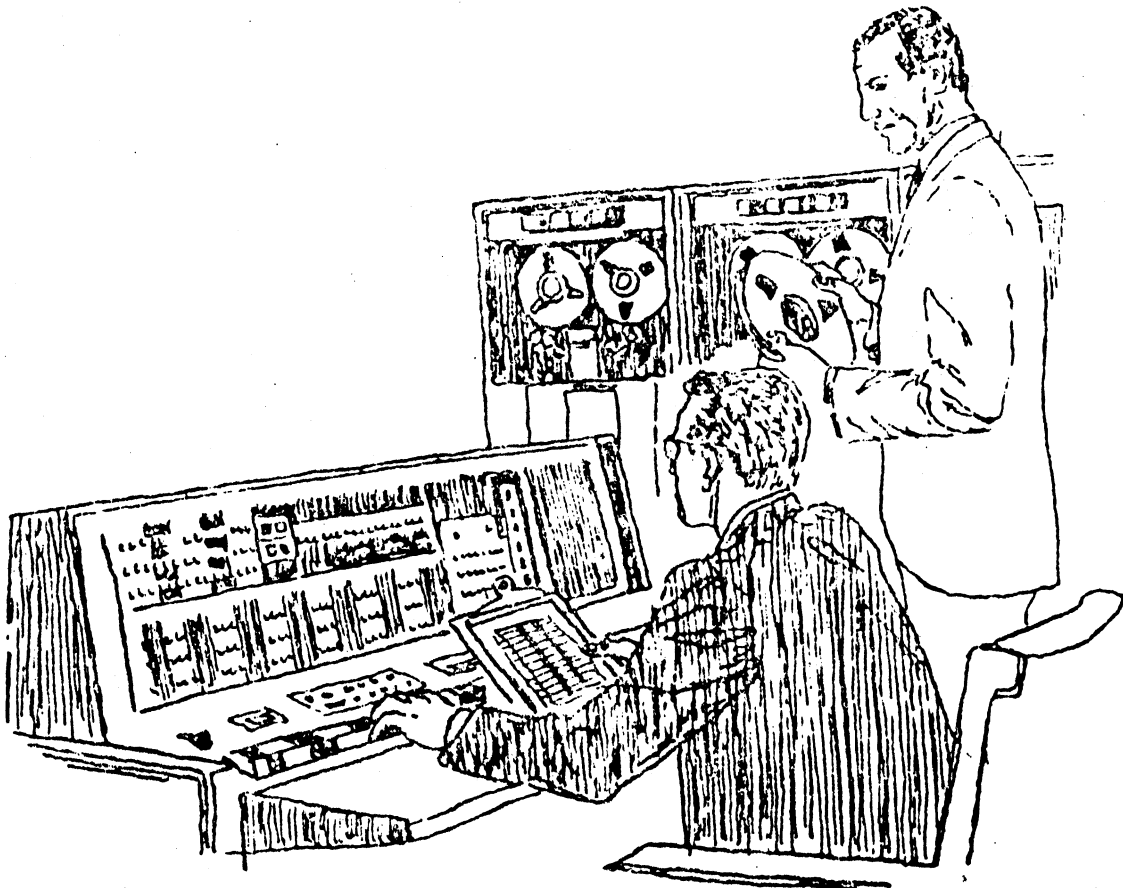
Resources will be provided to various state and local agencies to accomplish the following:

1. Maintain support for key components of critical traffic safety information systems.
2. Provide interpretive traffic safety data analysis services to:
 - a. The state legislature and executive branch.
 - b. Police agencies.
 - c. State, city and county engineers.
 - d. News media

- e. Education specialists.
 - f. Federal government.
 - g. Other city and county officials.
 - h. Special interest groups.
3. Provide training in interpretive traffic data analysis for traffic safety planning and decision making purposes.
 4. Upgrade current traffic-related information systems to:
 - a. Increase output capabilities.
 - b. Minimize input and processing costs.
 5. Develop new information systems to satisfy management, as well as operational traffic safety-related functions.

Evaluation Plan

Administrative evaluations will be performed on those tasks which lend themselves to quantitative and/or qualitative measurement. Accomplishment of task goals will also be used as criteria in these administrative evaluations. These will be performed on a six-month and yearly basis.



PSP TITLE: TRAFFIC RECORDS

PSP Number

STATE

Page

TR 83-06

Missouri

1 of 1

OBJECTIVE(S): To provide a complete data base for statewide problem identification and account analysis in support of traffic safety programs.

- TIME FRAMES -

Subgrantee	Descriptive Project Titles	Input	Output	Current FY	FY +1	FY +2	FY +3
MSHP	1. STARS information System Maintenance	6 FTE	Encode 126,000 accident reports, produce 1,150 traffic summaries		---	---	---
MSHP	2. Highway Safety Data Processing	4 FTE	Provide analytical capabilities to users		---	---	---
MDHS/MSHP	3. Traffic Records Systems Upgrade	400 Manhrs	Statewide revision		---	---	---
MSHP	4. DWI Law Systems Support	7 FTE	To be defined in project.				
CMSU	5. CMSU/HSRI Traffic Management Information Systems	400 Manhrs	Equipment studies, training package				
MDHS	6. Local Traffic Analysis	.5 FTE	Increase authorities traffic analysis		---		

Program Area Code	Current Year Major Cost Items By Project	402 to Local	402 Federal	Local Share	State Share	Total
310	1. Salaries, Fringe Benefits, Supplies, Travel, printing.	0	104.8	0	0	104.8
310	2. Salaries, Fringe Benefits, Supplies, Consulting Services	0	130.6	0	0	130.6
310	3. Computer Supplies, Forms, Travel	0	40.0	0	0	40.0
310	4. Salaries, Fringe Benefits, Printing, Supplies Equipment Rental	0	37.0	0	0	37.0
310	5. Expendables, Supplies, Travel, Contractual Services	0	5.6	0	0	5.6
310	6. Computer Supplies, Hardware, Software, Travel, Contractual Services.	0	70.0	0	0	70.0
Totals		0	388.0	0	0	388.0

PROBLEM SOLUTION PLAN 83-00-06
PROJECT NARRATIVES
TRAFFIC RECORDS

1. STARS Information Systems Maintenance

This project will assist the Missouri State Highway Patrol in the management of the STARS system. Resources provided will be utilized to support input processing requirements as well as operational oriented output sub-systems. Deliverables from this program will include processing approximately 126,000 traffic accident reports into the central repositories various manual and automated files. They will also consist of publication and dissemination of about 1,150 monthly semiannual and annual traffic summaries to contributing agencies. These summaries will be used in both state and local traffic planning and management functions.

One FTE provided under this task was assumed by the state during FY '82. It is projected that three (3) FTE's will be assumed by the state in July 1983 and the remaining three will be assumed by the state in July 1984.

2. Highway Safety Data Processing

The Missouri State Highway Patrol will provide the Division of Highway Safety with a systems team and use of its computer facility. These resources will be used to support the Division's information systems development and data analysis requirements. The following are the major work tasks to be computed under this project over the next three years:

- a. Highway safety plan development.
- b. Highway safety information systems contract development and monitoring.
- c. State and local information analysis support services
- d. Grant management information system support.
- e. Statewide traffic enforcement activity system support.
- f. Statewide traffic enforcement resource system support.
- g. City/county engineering accident location application support.
- h. STARS maintenance support.
- i. Statewide traffic records systems review and upgrade.
- j. Traffic statistical systems support.
- k. City/county engineering signalization synchronization program support.

3. Missouri Traffic Records System Upgrade

A traffic records committee for Missouri has been established to assist operational agencies update and improve the state's traffic records system.

Resources in this project will be used to support this task. Areas of activity in this program may include travel for designated committee members, printing of new forms, consultant services, as well as other costs associated with systems development and upgrading.

4. DWI Law Systems Support

Resources will be provided to the Missouri State Highway Patrol, as well as other state agencies, to assist in designing and implementing information systems mandated by the state's new drinking driver law. Resource eligibility will be based on providing support to initiate the provisions of the law but not to maintain those functions on an ongoing basis.

5. CMSU Traffic Management Information Systems

The Missouri Safety Center has been provided with increased traffic data analytical capabilities through the installation of the HSRI/STARS terminal interface. With the adoption of the HSRI/STARS terminal interface, as well as support from the university's (Central Missouri State) own computer facility, the Missouri Safety Center has the basic tools needed to perform detailed interpretive traffic data analysis. The Missouri Safety Center will offer to the police agencies interpretive traffic data analysis services at no direct charge to the department. These services will consist of performing various traffic-related planning and management studies. The Missouri Safety Center will also develop a training course designed to provide the skills required in order for law enforcement agencies to perform their own traffic analysis for planning and management decision making purposes.



6. Local Traffic Analysis

Missouri's attempt to increase local authorities capabilities in traffic analysis and countermeasure development for traffic safety problems, has been greatly enhanced over the past few years through automated data processing services provided to local jurisdictions. There still exists a need for communities experiencing from 1500 to 5000 accidents per year to have a hands on facility capable of extracting effective traffic management and program strategies, data aggregation for prioritizing selective enforcement and interrelated engineering countermeasure programs. A system is needed which is designed to provide such data backed up by batch capabilities.

A standardized computer system will be utilized which will allow the user to request information based upon the data on file. This will also be backed up by a batch system which enables a user to request a large number of long jobs to be performed sequentially without user intervention, with the output for all batch jobs conveniently sent to the printer.

This two-year program will provide local communities with geocodes, encoding methodologies, downloading capabilities and support equipment to sustain this effort. This will also include software and introductory training. The following seven (7) communities, with 1981 accident frequencies shown after community name, will be considered for assistance under this task. Springfield (4865), Independence (3454), St. Joseph (3030), Columbia (2716), Jefferson City (2081), Joplin (2002) and Cape Girardeau (1568).

An administrative evaluation will be completed based upon individual user application for the system, countermeasure development response time and overall accident reduction.

PROBLEM SOLUTION PLAN PT 83-07
55 MPH ENFORCEMENT

Problem Statement

A speed monitoring study conducted by the Missouri Highway Department in 1981 indicated that Missouri had an overall compliance rate with the 55 mile per hour (MPH) national speed limit of 54%.

Speed-related accidents have been determined to be significant problems in the State of Missouri and in-depth analyses were performed on all fatal and personal injury accidents that occurred in Missouri from 1977 through 1979 and were reported into the Statewide Traffic Accident Records System (STARS). During that three-year period, 127,404 such traffic crashes occurred involving either death or personal injury. Speed was identified as the number one identifiable violation accounting for 19.8% of the total violations. Speed involvement takes on added importance when considering only those crashes resulting in a death. Speed accounted for 28.3% of the total violations in fatal crashes.

Based upon information reported to the Fatal Accident Reporting System (FARS), for 1975-1979, the following conclusions have been made.

1. On all roadways in the State of Missouri, 68.8% of all fatal accidents occurred on 55 MPH designated roadways. Whereas, in all other states 51.0% of all fatal accidents occurred on roadways posted at 55 MPH.
2. Fatal accidents in the State of Missouri occurred at a rate of 11% in urban areas and 89% in rural areas.
3. 61.7% of fatal accidents occurred on straight roadway alignment, with 38.3% occurring on curved roadway.
4. The percentage of vehicles exceeding 55 MPH in FY '81 on all roadways was 46.3% (adjusted).

With the advent of the nationwide fuel shortage, the federal government has mandated that a segment of the grant funds derived from this program be devoted to obtaining compliance of the 55 mile per hour speed limit. The rationale for this approach is that if compliance is obtainable, significant amounts of fuel will be saved. In addition, a reduction in those traffic crashes involving high speed causative factors will also be obtained.

Problem Solution

Missouri's 55 MPH programs are aimed at forcing compliance with the national speed limit through the imposition of punitive sanctions or threat of such sanctions to those drivers violating the law. The underpinning philosophy being for drivers to comply with the 55 MPH speed limit not because they have internalized it to be proper behavior, but because of the potential adverse affects that noncompliance could have on them personally and financially. Speed-related accidents have been determined as a significant problem in the State of Missouri and by increasing motorist compliance with the national speed limit, there should be a correlation between the increased compliance and reduced frequency of speed-related crashes.

A set of funding statements and eligibility criteria have been developed to assist management in objectively selecting sites for funding, based on a number

of variables. Sites meeting these sets of criteria may be funded without prior approval from NHTSA. Updates to the plan will be made as sites are selected, with informational contracts to be provided to NHTSA. The guidelines and criteria for this problem area are as follows:

Urban

I. Purpose

Grants may be provided to enforce compliance with the national 55 mile per hour speed limit. The grants are set up to provide overtime pay for officers to work areas identified by the Division of Highway Safety as high noncompliance areas. Areas targeted for 55 MPH enforcement grants will be selected on the basis of their individual speed-related accident history, with the overall goal being the reduction of fatal and personal injury accidents.

II. Site Eligibility

A. Roadway

1. Must have interstate or multilane 55 MPH roadway within jurisdiction.
2. Must have at least two access points within jurisdiction providing on and off capabilities to roadway.
3. Must have a minimum of two miles of 55 MPH roadway between access points.

B. Enforcement Authority

1. Must have enforcement jurisdiction on roadway.
2. Ordinance must not be in conflict with state statutes.

C. Agency's base data must allow for a minimum of 600 hours of enforcement project effort on an annual basis (See Sec. IV, B, 2, A and B).

III. Conditions

A. Training

1. Must have successfully completed MDHS approved 55 MPH enforcement training program within first six (6) months of project implementation.
2. Must have completed an MDHS approved radar operators training program.
3. MDHS will provide training costs of actual course, not to include travel.
4. Project personnel will attend appropriate training courses as specified by MDHS.

B. Operations

1. Should advise MSHP, at least 10 days in advance, of proposed enforcement times and locations.

2. Should complete necessary reporting/monitoring forms as required by MDHS.
3. Encouraged to make enforcement times and locations available to local news media at least 12 hours in advance of activity.
4. Enforcement restricted to 55 MPH road(s) and times as specified by MDHS, to be determined by speed-related accident analysis.

IV. Funding Limitations

A. Manpower

1. Full-time traffic officers may be provided, if the officer funded is an addition to the authorized department uniformed patrol strength. The following costs are eligible:

Base salary only of full-time officer.
 - a. First year, 100% of base salary.
 - b. Second year, 70% of base salary.
 - c. Third year, 50% of base salary.
2. Cost of overtime is allowable only under the following conditions:
 - a. All other competing priority projects have been considered which utilize new or expanded police traffic units.
 - b. Permanent increases in total department uniform patrol strength is not possible under existing state or local statutes. (FY '82 HSP Guidelines)
3. Overtime rate will not be reimbursed at a rate in excess of 1 1/2 times the pay for the highest level patrolman in the organization. Overtime reimbursement does not include fringe benefits and training time, but may include court time for cases related to enforcement project.

B. Operations

1. Equipment
 - a. Radar units may be purchased to support project. These units will not replace present equipment and must be identified as necessary for the project.
 - b. Vehicle policy will be consistent with 402 guidelines. Costs on per mile rate are allowable consistent with Federal reimbursement policy.
2. Maximum Manpower Allocation Based Upon Economic Loss Ratio
 - a. For each fatal or injury accident occurring during base calendar year on identified roadway, 20 hours of enforcement will be eligible per year.

- b. For each property damage accident in base year, one hour of enforcement will be allowed per year.
- c. Providing the site meets all other funding criteria, a minimum of 5% of annual contract hours and a maximum of 10% must be worked on a monthly basis to qualify for reimbursement.

V. Evaluation

- A. Immediate - Production Index ($\frac{\text{Speed Violations}}{\text{Manhours}} = \text{Index}$)
- B. Intermediate - Average Speeds (random sampling - MHD speed monitoring devices where applicable).
- C. Impact
 - 1. Reduce overall accidents on roads identified for enforcement.
 - 2. Reduce speed-related accidents on roads identified for enforcement.
- D. Goal - Achieve Economic Benefit/Cost Ratio of 2 to 1.

Rural

I. Purpose

Grants may be provided to enforce compliance with the national 55 mile per hour speed limit. The grants are set up to provide overtime pay for officers to work areas identified by the Division of Highway Safety as high noncompliance areas. Areas targeted for 55 MPH enforcement grants will be selected on the basis of their individual speed-related accident history, with the overall goal being the reduction of fatal and personal injury accidents.

II. Site Eligibility

- A. County must have at least 12 miles of rural interstate system within jurisdiction.
- B. County must rank in the top 25% of all counties by AVMT on 55 MPH roadways.
- C. Must have a minimum of 600 hours of enforcement annually, based on Item V.

III. Conditions

- A. Training
 - 1. Must successfully complete MDHS approved 55 MPH enforcement training program within first six (6) months of project implementation.

2. Must successfully complete MDHS/NHTSA approved radar operators training program within first six (6) months of project implementation.
3. Project personnel will attend other appropriate training courses as specified by MDHS.
4. MDHS will provide training costs of actual course, not to include travel.

B. Operations

1. Shall advise MSHP, at least 10 days in advance, of proposed enforcement times and locations.
2. May make enforcement times and locations available to local news media at least 12 hours in advance of activity.
3. Should complete necessary reporting/monitoring forms as required by MDHS.
4. Enforcement restricted to 55 MPH road(s) and times as specified by MDHS, to be determined by speed-related accidents.
5. All traffic vehicle used in this project must be approved by MDHS.

IV. Funding Limitations

- A. Full-time traffic officer(s) may be provided, if the officer funded is in addition to the authorized department uniformed patrol strength. The following costs are eligible:

Base salary only of full-time officer.

1. First year, 100% of base salary.
2. Second year, 70% of base salary.
3. Third year, 50% of base salary.

- B. Cost of overtime is allowable only under the following conditions:

1. All other competing priority projects have been considered when utilizing new or expanded traffic units.
2. Permanent increases in total departmental uniform patrol strength is not possible under existing state or local statutes.

- C. Overtime will not be reimbursed at a rate in excess of 1 1/2 times the pay of road deputy or equivalent. Overtime compensation includes enforcement activities and related court time, excluding training time.

D. Equipment Costs

1. Radar units may be purchased to support project. These units will not replace present equipment and must be justified as necessary for the project.
2. New vehicle policy will be consistent with 402 guidelines. Cost reimbursed on per mile rate as specified by state law are allowable. Mileage claimed cannot exceed 20 miles per hour of enforcement time on a monthly basis.

V. Maximum Manpower Allocation Based Upon Economic Loss Ratio

- A. For each fatal and injury accident occurring during base calendar year, on identified priority roadways, 20 hours of enforcement will be eligible per year.
- B. For each property damage accident in base year, one hour of enforcement will be allowed per year.
- C. A minimum of 5% of annual contract hours and a maximum of 10% must be worked on a monthly basis to qualify for reimbursement.

VI. County Ranking System

- A. AVMT = 55 MPH roadways excluding urban areas.
- B.
$$\frac{\text{AVMT} \div 55 \text{ MPH Roadway Miles}}{\text{Speed-Related Accidents on 55 MPH Roadways}} = \text{Ratio}$$

VII. Evaluation

- A. Immediate - Production Index ($\frac{\text{Speed Violations}}{\text{Manhours}} = \text{Index}$)
- B. Intermediate - Average Speeds (Random sampling/MHD speed monitoring devices where applicable).
- C. Impact
 1. Reduce speed-related accidents on 55 MPH roadways excluding urban areas.
 2. Reduce overall accidents on 55 MPH roadways excluding urban areas.
- D. Goal - Achieve Economic Benefit/Cost Ratio of 2 to 1.

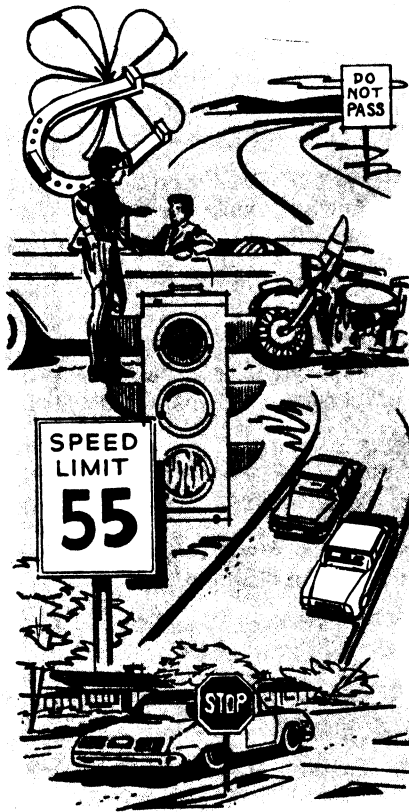
Goals

To increase compliance with the 55 MPH speed limit and decrease fatal and personal injury accidents on 55 roadway by 5%.

Evaluation

The evaluation design will consist of pre- and post-test comparisons of all fatal and injury data as supplied by the STARS system, as well as the evaluation elements specified in each set of criteria.

Speed compliance rates will be compared on a pre- and post-grant basis.



PSP TITLE: 55 MPH Enforcement

PSP Number

STATE

Page

PT 83-07

Missouri

1 of 5

OBJECTIVE(S): To reduce percent of vehicles exceeding 55 MPH from 46.3% (FY '81)
to 45.0% during FY '83

- TIME FRAMES -

Subgrantee	Descriptive Project Titles	Input	Output	Current FY	FY +1	FY +2	FY +3
K.C.P.D.	1. Kansas City 55 MPH Program	5,000 hours	20,000 Speed Arrests				
MDHS	2. 55 MPH Continuation Sites						
L.Co.	1. Continue Rural Project in Lafayette County	1,500 hours	Increase Speed Arrests by 10%		→		
P.Co.	2. Continue Rural Project in Platte County	1,500 hours	Increase Speed Arrests by 10%		→		
L.Co.	3. Continue Rural Project in Laclede County	1,500 hours	Increase Speed Arrests by 10%		→		
A.Co.	4. Continue Rural Project in Adair County	1 FTE	Increase HMV Arrests		→		
B.Co.	5. Continue Rural Project in Bates County	1 FTE	Increase HMV Arrests		→		
B.Co.	6. Continue Rural Project in Benton County	1 FTE	Increase HMV Arrests		→		
B.Co.	7. Continue Rural Project in Butler County	2 FTE	Increase HMV Arrests		→		
C.Co.	8. Continue Rural Project in Camden County	1 FTE	Increase HMV Arrests		→		

Program Area Code	Current Year Major Cost Items By Project	402 to Local	402 Federal	Local Share	State Share	Total
315	1. Salaries, Overtime	80.0	80.0	-0-	-0-	80.0
315	2. 55 MPH Continuation Sites - Overtime, Project Support Equipment	155.2	155.2			155.2
315	1. Salaries (15.5), Mileage (6.5)					
315	2. Salaries (15.3), Mileage (6.4)					
315	3. Salaries (14), Mileage (6)					
315	4. One Salary @ 100% thru 12/31/82, then 70% thru 9/30/83 (8.6)			3.1		3.1
315	5. One Salary @ 50% thru 3/31/83 (3.2)			9.5		9.5
315	6. One Salary @ 70% thru 3/31/83, then 50% thru 9/30/83 (7.5)			5.0		5.0
315	7. Two Salaries @ 70% thru 3/31/83, then 50% thru 9/30/83 (16.2)			10.8		10.8
315	8. One Salary @ 70% thru 3/31/83, then 50% thru 9/30/83 (7.9)			5.3		5.3
	Totals					

PSP TITLE: 55 MPH Enforcement

PSP Number
PT-83-07

STATE
Missouri

Page
2 of 5

OBJECTIVE(S): Same as shown on Page 1 of this PSP.

- TIME FRAMES -

Subgrantee	Descriptive Project Titles	Input	Output	Current FY	FY +1	FY +2	FY +3
C.Co.	9. Continue Rural Project in Clark County	1 FTE	Increase HMV Arrests		-1		
C.Co.	10. Continue Rural Project in Cole County	1 FTE	Increase HMV Arrests		-1		
D.Co.	11. Continue Rural Project in Dent County	1 FTE	Increase HMV Arrests		-1		
H.Co.	12. Continue Rural Project in Henry County	1 FTE	Increase HMV Arrests		-1		
H.Co.	13. Continue Rural Project in Holt County	1 FTE	Increase HMV Arrests		-1		
M.Co.	14. Continue Rural Project in Monroe County	1 FTE	Increase HMV Arrests		-1		

PSP TITLE: 55 MPH Enforcement

PSP Number	STATE	Page
PT-83-07	Missouri	3 of 5

OBJECTIVE(S): Same as shown on Page 1 of the PSP.

- TIME FRAMES -

Subgrantee	Descriptive Project Titles	Input	Output	Current FY	FY +1	FY +2	FY +3
P.Co.	15. Continue Rural Project in Pettis County	1 FTE	Increase HMV Arrests		- -		
R.Co.	16. Continue Rural Project in Ray County	1 FTE	Increase HMV Arrests				
MDHS	3. 55 MPH Enforcement Programs , New Sites						
O'F.P.D.	1. O'Fallon P.D.	1,500 hours	Increase Speed Arrests by 10%				
S.H.P.D.	2. Sunset Hills P.D.	1,500 hours	Increase Speed Arrests by 10%				
L.P.D.	3. Liberty P.D.	1,500 hours	Increase Speed Arrests by 10%				
I.P.D.	4. Independence P.D.	1,500 hours	Increase Speed Arrests by 10%				

Program Area Code	Current Year Major Cost Items By Project	402 to Local	402 Federal	Local Share	State Share	Total
315	15. One salary @ 70% thru 3/31/83, then 50% thru 9/30/83, Radar (10.0)			5.3		5.3
315	16. One slary @ 50% thru 3/31/83 (5.6)			4.1		4.1
315	3. New 55 MPH Programs - Overtime, Mileage, Project Support Equipment	205.5	205.5	-0-	-0-	205.5
315	1. Salaries (10), Mileage (4), Equipment (1.5)					
315	2. Salaries (10), Mileage (4), Equipment (1.5)					
315	3. Salaries (12), Mileage (5), Equipment (1.5)					
315	4. Salaries (14), Mileage (7), Equipment (1.5)					
Totals						

PSP TITLE: 55 MPH Enforcement

PSP Number	STATE	Page
PT-83-07	Missouri	4 of 5

OBJECTIVE(S): Same as shown on Page 1 of this PSP.

- TIME FRAMES -

Subgrantee	Descriptive Project Titles	Input	Output	Current FY	FY +1	FY +2	FY +3
L.S.P.D.	5. Lee' Summit P.D.	1,500 hours	Increase Speed Arrests by 10%				
St.C.P.D.	6. St. Charles P.D.	1,500 hours	Increase Speed Arrests by 10%				
C.G.Co.	7. Cape Girardeau County	1,500 hours	Increase Speed Arrests by 10%				
J.Co.	8. Jefferson County	1,500 hours	Increase Speed Arrests by 10%				
St.C.Co.	9. St. Charles County	1,500 hours	Increase Speed Arrests by 10%				
J.P.D.	10. Joplin P.D.	1,500 hours	Increase Speed Arrests by 10%				
Program Area Code	Current Year Major Cost Items By Project	402 to Local	402 Federal	Local Share	State Share	Total	
315	5. Salaries (12), Mileage (5), Equipment (1.5)						
315.	6. Salaries (12), Mileage (5), Equipment (1.5)						
315	7. Salaries (15.5), Mileage (6.5), Equipment (1.5)						
315	8. Salaries (15.5), Mileage (6.5), Equipment (3)						
315	9. Salaries (15.5), Mileage (6.5), Equipment (3)						
315	10., Salaries (14), Mileage (6), Equipment (3)						
Totals							

PSP TITLE: 55 MPH Enforcement

PSP Number
PT-83-07

STATE
Missouri

Page
5 of 5

OBJECTIVE(S): Same as shown on Page 1 of this PSP.

- TIME FRAMES -

Subgrantee	Descriptive Project Titles	Input	Output	Current FY	FY +1	FY +2	FY +3
MSHP	4. C.A.R.E. Project	1,500 hours	Increase Speed Arrests by 5%				
MSHP	5. State Selective Enforcement	8,000 hours	Increase Speed Arrests by 5%				
Program Area Code	Current Year Major Cost Items By Project	402 to Local	402 Federal	Local Share	State Share	Total	
315	4. Gasoline and Travel	-0-	18.0	-0-	-0-	18.0	
315	5. Gasoline, Travel and Overtime	-0-	80.5	-0-	-0-	80.5	
Totals		440.7	539.2	75.2	-0-	614.4	

PROBLEM SOLUTION PLAN PT 83-07
PROJECT NARRATIVES
55 MPH ENFORCEMENT

1. Kansas City 55 MPH Program

The first three months of activity will be a continuation from FY '82 and will consist of overtime traffic personnel to be used in 55 MPH enforcement on the approximately 85 miles of 55 MPH roadways located in the city limits of Kansas City. The efforts will be varied to determine optimum resource assignment and at what point these resources should be relocated to prevent diminishing returns for enforcement efforts. Analysis will be conducted to determine the effect of different methods of enforcement. A resource assignment guide for police administrators will be developed at the conclusion of this program.

Upon completion of this study, the Department will continue the enforcement efforts for the remaining part of the fiscal year, utilizing the techniques identified in the first phase of this program. It is anticipated that project personnel will issue an additional 20,000 speeding violations, with other traffic personnel issuing approximately 45,000 speeding violations.

2&3. Continuation and New 55 MPH Enforcement Programs

These projects will provide for traffic officers' salaries in rural and urban areas. Other costs may include project support equipment and mileage on project involved vehicles. To be eligible for continuation, each site must individually demonstrate a measure of performance in the project through increased selective enforcement, increased 55 MPH speeding arrests, decreased speed-related traffic crashes or a combination of variables that may be used to indicate success of the project.

Projects having been in effect for less than six months will be continued on a probationary basis upon demonstration of selective assignment of resources and documentation of increased activity. Assessments of these programs will be completed prior to issuing continuation contracts. Monitoring reports will be maintained in MDHS central files for reference and review.

4. C.A.R.E. Project

The Missouri State Highway Patrol will participate in this cooperative effort with surrounding states during the critical holiday periods.

The primary holidays to receive the greatest concentration of enforcement are Memorial Day weekend, Fourth of July weekend, and the Labor Day weekend. In addition to this, enforcement will be concentrated during the Thanksgiving, Christmas and New Year's Holidays. Statistics will be kept on holiday period traffic crashes and enforcement activity compared to previous periods. The official counting periods will coincide with the National Safety Council designation of holiday periods, depending on which day the holiday falls.

5. State Selective Enforcement

A cooperative project design will be developed for approval by MDHS. An analysis of traffic crash problem areas will be made to identify target areas for selective enforcement implementation. Equipment support for target areas may include radar, DWI and specialized training.

PROBLEM SOLUTION PLAN HD 83-08
ENGINEERING SERVICES

Problem Statement

It is often necessary for cities and counties to obtain the services of private consulting engineering firms in order to aid them in correcting operational problems on their streets or highways. Correction of these problems can require detailed studies of traffic flow or evaluation of bridge structure for load-carrying capacity. Most cities and counties do not have personnel with expertise in these areas to perform the necessary analyses. This is a support problem where methods of correcting a particular situation must first be examined and determined before they can be implemented or evaluated for effectiveness.

Problem Solution

The solution to the problem stated above is to make available the services of trained professionals to aid the cities and counties that do not have the trained personnel on their staffs. We propose to retain private consulting engineering firms that can provide the cities and counties with a prompt review of their particular problems. The cost is considerably less than if they were to obtain the services for themselves. Also, this allows them to use available funding for implementation of a solution which, in turn, often reduces the time required for implementation. Services which will be made available are divided into the categories of Traffic Engineering and Bridge Engineering.

Goals

This program is aimed at correcting operational problems on city and county streets or highways.

Evaluation

The success of this program will be gauged by the number of studies completed and implemented.



PSP TITLE: ENGINEERING SERVICES

PSP Number

STATE

Page

HD 83-08

Missouri

1 of 1

OBJECTIVE(S): To provide traffic problem solutions and bridge evaluations for
local government.

- TIME FRAMES -

Subgrantee	Descriptive Project Titles	Input	Output	Current FY	FY +1	FY +2	FY +3
MHTD	1. Bridge Engineering Assistance Program	150	To be defined in each project.		---	---	---
MHTD	2. Traffic Engineering Assistance Program	40			---	---	---

Program Area Code	Current Year Major Cost Items By Project	402 to Local	402 Federal	Local Share	State Share	Total
613	1. Consulting Services	0	80.0	0	0	80.0
613	2. Consulting Services	0	80.0	0	0	80.0
Totals		0	160.0	0	0	160.0

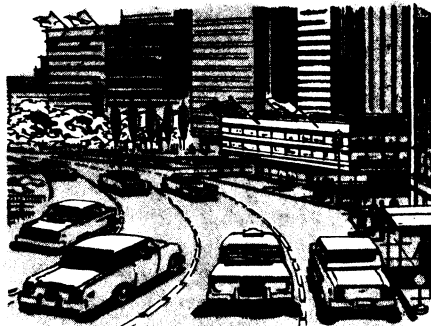
PROBLEM SOLUTION PLAN HD 83-08
PROJECT NARRATIVES
ENGINEERING SERVICES

1. Bridge Engineering Assistance Program

This project will provide for the retention of two consultants with expertise in analyses of bridge structures. The state will be divided into two segments, with one consultant retained for each area. The consultants will review structures as requested by a city or county and will provide information on bridge condition, load limits and recommended repairs and maintenance.

2. Traffic Engineering Assistance Program

The purpose of this task is to retain private consulting firms with expertise in traffic engineering to aid cities and counties with specific operational problems on their streets or highways. To accomplish this task, the state has been divided into two segments and a consultant is assigned by contract to assist the local governments in that segment. Requests are submitted for review. If they meet the requirements of this program, the consultants are authorized to proceed with the study. The program does not provide for actual design in connection with the solution. It attempts to provide quick, precise solutions to traffic problems.



PROBLEM SOLUTION PLAN HD 83-09
ENGINEERING TRAINING

Problem Statement

On the local government level there exists a lack of trained personnel in traffic engineering. Often the task of evaluating or recognizing traffic problem areas lies with personnel whose primary responsibilities are directed elsewhere. Their training and qualifications are not always related to traffic or safety engineering. This, therefore, becomes a support problem in that trained personnel are needed who are aware of the standards, methods and new developments used to ensure the safety of the traveling public.

Problem Solution

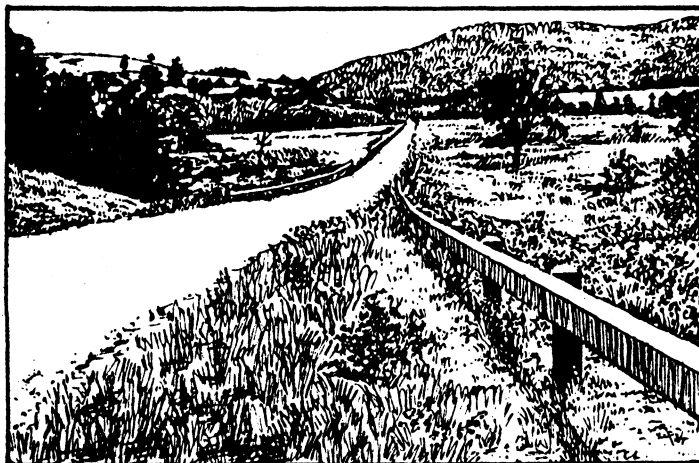
The absolute solution would be for the local jurisdiction to hire traffic engineers; however, the limited funds available to most local governments makes this impossible. The next best solution is to acquaint existing personnel with traffic engineering through short courses and training sessions. These can be used to provide them with information on traffic problem solutions, on programs developed to aid local jurisdictions and on funding available to assist them. With a continual turnover of personnel, continual changes in standards of traffic engineering and increases in technology, the need for this training remains constant.

Goals

To provide a level of knowledge for communities and counties in the area of traffic safety.

Evaluation

The success of the workshops, conference and seminars will be reflected in reports as determined from participant questionnaires and/or evaluations, as well as the number of participants attending.



PSP TITLE: ENGINEERING TRAINING

PSP Number

STATE

Page

HD 83-09

Missouri

1 of 1

OBJECTIVE(S): To provide traffic safety workshops and seminars for local governments. - TIME FRAMES -

Subgrantee	Descriptive Project Titles	Input	Output	Current FY	FY +1	FY +2	FY +3
MHTD	1. Annual Traffic Conferences	1	To be defined in each project.		---	---	---
MHTD	2. Workshops and Seminars	1			---	---	---
Program Area Code	Current Year Major Cost Items By Project	402 to Local	402 Federal	Local Share	State Share	Total	
612	1. Contractural Services	0	20.0	0	0	20.0	
612	2. Contractural Services	0	15.0	0	0	15.0	
Totals		0	35.0	0	0	35.0	

PROBLEM SOLUTION PLAN HD 83-09
PROJECT NARRATIVES
ENGINEERING TRAINING

Tasks will be developed and added to the HSP once training needs are designated.

1. Annual Traffic Conference

A traffic conference is held yearly on the University of Missouri-Columbia campus. This program provides a forum for the discussion of Highway Safety Engineering topics and includes speakers from both the public and private sectors. The conference is two days in duration and is expected to have about 100 participants.

2. Traffic Safety Workshops and Seminars

It is planned to hold Traffic Safety Workshops and Seminars during FY 1983. These will provide training for local personnel in the areas of traffic safety.



PROBLEM SOLUTION PLAN HD 83-10
INTERGOVERNMENTAL COORDINATION

Problem Statement

There is no formal mechanism to provide for local input, other than the Highway Safety Engineering Committee. It is necessary to obtain this input, both to satisfy guidelines and to determine the needs and problems of the local entities. The problems identified and available countermeasures are main concerns of this coordination effort.

Problem Solution

An established Highway Safety Engineering Committee will ensure a continuing dialogue between the state and the needs of the communities.

Goals

To continue to provide for local input.

Evaluation

The success of this committee is gauged through the reception of the program recommendations by communities throughout the state.



PSP TITLE: INTERGOVERNMENTAL COORDINATION

PSP Number

STATE

Page

HD 83-10

Missouri

1 of 1

OBJECTIVE(S): To provide a means of receiving input from local governments for
program development

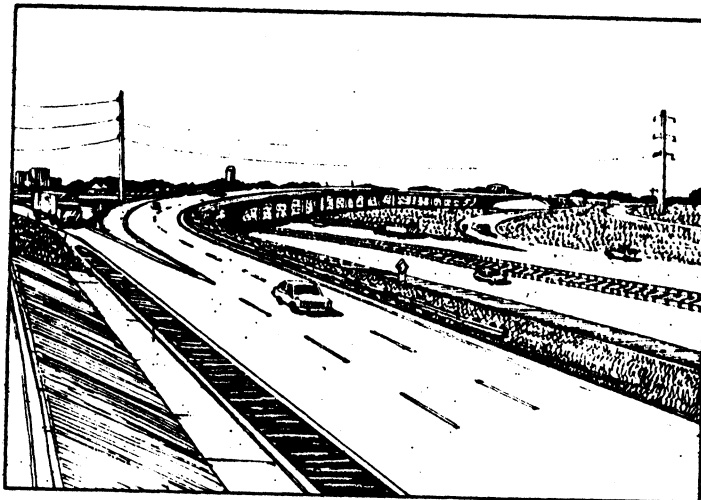
- TIME FRAMES -

Subgrantee	Descriptive Project Titles	Input	Output	Current FY	FY +1	FY +2	FY +3
MHTD	1. Highway Safety Engineering Committee	1	Program Recommendations				
Program Area Code	Current Year Major Cost Items By Project	402 to Local	402 Federal	Local Share	State Share	Total	
612	1. Consulting Services	0	1.0	0	0	1.0	
Totals		0	1.0	0	0	1.0	

PROBLEM SOLUTION PLAN HD 83-10
PROJECT NARRATIVES
INTERGOVERNMENTAL COORDINATION

1. Highway Safety Engineering Committee

The Highway Safety Engineering Committee has been established to provide feedback to the department in planning future highway safety engineering-related work with 402 funding. This committee is composed of a mixture of experienced traffic engineers from various governmental organizations around the state ranging from small, medium and large towns to both rural and urban counties, as well as Department of Highway and Transportation's personnel responsible for administering the three-plus standards. During this committee meeting which is held each April or May, the department personnel receive information from other committee members as to the needs during the coming months of local government agencies with respect to 402 engineering services. In addition, discussion is held as to how current programs can be improved and to which programs increased funding can be directed. Attendance at the meeting usually numbers in the neighborhood of 15 participants along with several interested observers who are also encouraged to provide input.



PROBLEM SOLUTION PLAN HD 83-11
EQUIPMENT PURCHASE

Problem Statement

Traffic safety equipment is a necessary part of an overall program for the reduction of accidents. It provides a valuable tool in the evaluation, analysis and correction of problems associated with traffic patterns and characteristics. However, its high cost often makes its purchase difficult when funds are limited.

Problem Solution

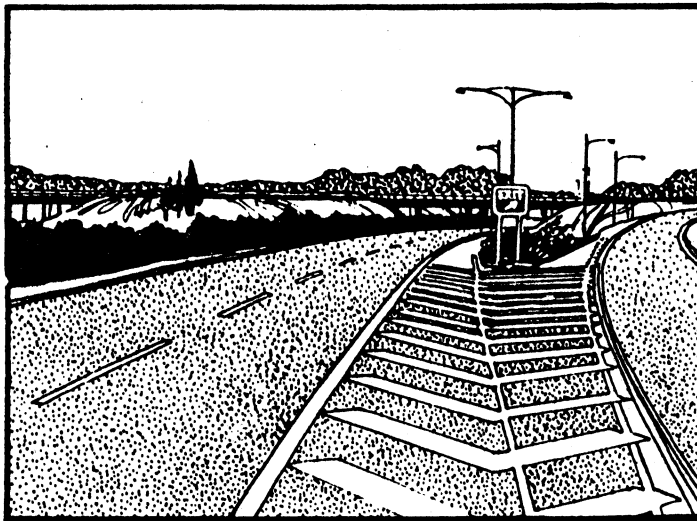
A solution is to provide funding through the Highway Safety Plan for these items. Traffic Safety equipment will be purchased only as the need for the equipment arises.

Goals

The annual purchase and distribution of equipment.

Evaluation

Evaluation will be determined from comments of users.



Revised 10-01-82

PSP TITLE: EQUIPMENT PURCHASE

PSP Number

STATE

Page

HD 83-11

Missouri

1 of 1

OBJECTIVE(S): To purchase traffic safety equipment as needed

- TIME FRAMES -

Subgrantee	Descriptive Project Titles	Input	Output	Current FY	FY +1	FY +2	FY +3
MHTD	1. Traffic Safety Equipment	1	Fulfill needs as they develop.				
Program Area Code	Current Year Major Cost Items By Project	402 to Local	402 Federal	Local Share	State Share	Total	
609	1. Traffic Safety Equipment	0	4.0	0	0	4.0	
Totals		0	4.0	0	0	4.0	

PROBLEM SOLUTION PLAN HD 83-11
PROJECT NARRATIVES
EQUIPMENT PURCHASE

1. Equipment Purchase

This task provides for the purchase of safety equipment for use by state and local agencies in conducting traffic studies and corrections.

PROBLEM SOLUTION PLAN HD 83-12
WARNING AND REGULATORY SIGNS

Problem Statement

Communities are in need of bringing their traffic signing into compliance with the MUTCD.

Problem Solution

A cost-sharing program has been established to assist cities in implementing their traffic sign plans developed through the Traffic Engineering Assistance Program (TEAP).

Goals

To provide assistance in seven sites, bring them into compliance.

Evaluation

The success of this project will be reflected in the accident before and after studies.



Revised 10-01-82

PSP TITLE: WARNING AND REGULATORY SIGNS

PSP Number

STATE

Page

HD 83-12

Missouri

1 of 1

OBJECTIVE(S): To provide assistance in bringing local governments' traffic signing
in conformance with the Manual on Uniform Traffic Control Devices.

- TIME FRAMES -

Subgrantee	Descriptive Project Titles	Input	Output	Current FY	FY +1	FY +2	FY +3
MDHS	1. Warning and Regulatory Signs	6	To be defined in each project.		---	---	---

Program Area Code	Current Year Major Cost Items By Project	402 to Local	402 Federal	Local Share	State Share	Total
613	1. Materials and Labor	0	25.0	0	0	25.0
Totals		0	25.0	0	0	25.0

PROBLEM SOLUTION PLAN HD 83-12
PROJECT NARRATIVES
WARNING AND REGULATORY SIGNS

1. Warning and Regulatory Signs

A systematic program has been initiated to replace nonconforming signs off the federal-aid system based on traffic studies. Installation of signs in conformance with the Manual on Uniform Traffic Control Devices has demonstrated to be low cost effective construction for accident reduction. The task will be administered consistent with Section 405 Program guidelines.



TSM PROGRAM - TRANSYT - 7F
PROJECT TMD - 07 (002)

Missouri has established an ongoing Traffic Signalization Optimization Timing Program for purposes of accident reduction, increased travel efficiency and energy conservation. A central computer facility is being used, providing printouts at no cost to communities throughout the state.

The project funding level is set at \$100,000.00. This level of funding provides for administration, training and equipment necessary to implement and complete the activities within a minimum two-year period.

The milestones associated with this program were to establish coordination of state and local data, procure data-gathering equipment and appropriate forms, develop flow process and timetable, and secure training course. All of these milestones have been accomplished or are in a continuing state of implementation.

Evaluation of this program will be conducted under the auspices of the program administration. This will include measurement of the performance indicator which specifies the number of timing plans developed and implemented and a two-year before-after accident and energy study.

